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BULLETIN OF THE MEDICAL LIBRARY ASSOCIATION

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July 1954

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A Galaxy of Old Japanese Medical Books with Miscellaneous Notes on Early Medicine in Japan

Part I. Medical History and Biography. General Works. Anatomy. Physiology and Pharmacology

By Gordon E. Mestler

Department of Anatomy, State University of New York College of Medicine at New York City Brooklyn, N. Y.

A TURN of fate permitted the writer to be a member of a medico-genetic research team from America, under the leadership of Dr. James B. Hamilton, Professor of Anatomy in the State University of New York College of Medicine at New York City, working in Japan with the cooperation and assistance of many staff members, students, and technicians of the University of Tōkyō School of Medicine. That work had the assistance of a grant-in-aid from the U. S. Public Health Service, and the logistic support of the Far East Air Forces. This fortunate circumstance also carried with it, for the present writer, certain unexpected advantages of time and place—not directly related to the work of research—consisting of book-hunting adventures off the beaten path.[1]

To a bibliophile with personal interests in the history of medicine, exposure to the old bookshops in Tōkyō and Nagoya during the summer of 1953 provided an unusual opportunity to create the nucleus of a collection of books representative of the historical development of medicine in Japan, with particular emphasis on the early works. This paper will be concerned principally with describing the old Japanese medical books (and some recent ones) forming this collection, and in the course of this bibliographical review, attention will be focused on most of the historically important works in the medical literature of Japan. The further temptation to include occasional notes on early Japanese medical beliefs and practices, as gleaned in part from these old books, has been irresistible.

[1] The literary adventures and fun of tracking down old Japanese medical books was the subject of an illustrated talk given to the members of the Antiquarian Booksellers Association of America (New York Chapter) at their meeting on March 2nd, 1954.

Medical History and Biography

We start, logically, with the history of medicine in Japan. The most comprehensive text is the *Nihon igakushi* of Yū FUJIKAWA (1865–1940), first published in 1904 (Plate I A). There have been many successive editions of this now classic work, culminating in the so-called "standard edition" of 1941. Later editions have appeared, the most recent being in 1949, but the quality of the paper upon which it was printed was very poor, most of the figures in the text being almost illegible. In 1911 FUJIKAWA translated his own book into German and published it in Tōkyō under the title *Kurze Geschichte der Medizin in Japan*. This German translation was the basis for an edition rendered into English by the late Dr. John Ruhräh, published in 1934 in the Hoeber "Clio Medica" series with the title *Japanese Medicine*. The German and/or the English translations are probably the only source books familiar to most medical librarians.[2] However short FUJIKAWA may have made his German translation, many of the illustrations appearing in the original Japanese edition were reproduced, consisting chiefly of portraits of noted Japanese physicians. In addition he chose also to include four illustrations of pathological conditions artistically portrayed and reproduced from a series of 12th century paintings. Ruhräh's English translation of 1934 is even shorter than the "short" German translation and, strangely, not any of the illustrations appearing in *Japanese Medicine* are to be found in either the German or the Japanese editions. For English readers, however, this book provides one of the few authoritative writings in our language on the history of medicine in Japan, and it does have scattered throughout the text most of the bibliographical references given by FUJIKAWA to the early Japanese medical literature, with titles in Romaji. For non-Japanese readers, their interest in the *Nihon igakushi* must be centered in a consideration of the illustrations not available in the usual German (1911) or American (1934) editions. These can be briefly described as follows: early representations of the viscera; the visceral and environmental relationships of the structure of the eye; the ten successive months of pregnancy; diagrams of important spots for acupuncture, and the correct use of needles; artistic portrayals of disease; and pictures of the customs of the early Japanese physician in treating patients, taken from early non-medical sources (Plate I B); and Chinese diagrams for fortune-telling, sometimes used in Japan. Reference is made to an early book of unknown author and date entitled *Kishitsu sōshi*

[2] Less well-known is *The Outline of the Medical History of Japan*, written (in English) by FUJIKAWA and published at Tōkyō in 1925 (as the first part of *The Medical History and Medical Education in Japan*, by Yū FUJIKAWA and Zenjūrō INOUYE). This "semi-translation" of the *Nihon igakushi*, antedating Ruhräh's translation from the German, constitutes another source book in the English language on the history of medicine in Japan. There are no illustrations in the 1925 study, which was issued by the Kyokuto nettai igaku-kai (Association for Far East Tropical Medicine).

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安藝吉田先生著

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(a book of strange diseases), but this is believed to be equivalent to the *Yamai-no sōshi* of JAKUREN and KASUGA, a collection which appeared in the 12th or 13th century.

In 1933 FUJIKAWA published his *Nihon igakushi kōyō*, which is a summary or abstract of Japanese medical history from ancient times to the end of the Edo period (1867), arranged chronologically by periods, and including a chapter on the history of specific diseases in Japan. This book, containing information not in the original 1904 edition of *Nihon igakushi*, was also a sort of supplement to that larger work. *Nihon igakushi kōyō* was republished, without enlargement, in 1941 but printed on very poor paper—one of the "literary" effects of the war. The illustrations are mostly portraits, but also include specimens of the calligraphy of famous Japanese physicians, with views of the tombs of some of them; plates reproduced from Japanese translations of certain foreign (i.e., Western) medical works; and a picture of wooden models of the skull and bones of the foot, used for teaching. Reference is made to the famous and exceedingly rare work *Seyakuin (kai)nantai zōzu*, composed by Kanzen MIKUMO in 1798, and one of its remarkable colored plates, showing the thoracic viscera in situ, is reproduced. The traditional association of religion and the care of the sick is shown by the "atlas" of a Buddhist temple, one building of which was for use as a hospital.

Medicine and religion is a theme which was evidently dear to the heart of FUJIKAWA since he devoted an entire monograph to the subject in his *Ijutsu to shūkyō*, first published in 1937. In this book he said, "Medicine . . . should be based on . . . science, but the object of such [technique] is the human being, hence it should not be just mechanical . . . Physicians have to study medical science in the scientific way, but they also need mental science, philosophy, psychology, and ethics . . . When they have such knowledge their [technique] should [then] be complete . . . There is a close relation of medicine . . . to religion, and there are very few works on this relationship. . . " FUJIKAWA evidently believed that medicine, especially the utilization of its specialized techniques, is inclined too much to the scientific at the expense of its humanistic implications.

Interestingly enough, there is a small paper-book series in Japan, like our "pocket-book" variety, and in 1937 appeared a title *Sekai igaku shi* by FUJIKAWA, with the help of Kaneyoshi AKAMATSU, which is a brief summary of world medical history. This little survey was republished in 1947; it has no illustrations.

It is (or was) the custom in Japan for an author to present manuscript copies of his work to the National Library in Tōkyō (which is comparable to our Library of Congress). In 1929 three such manuscripts were given to the National Library and in 1935 these were published together as *Furo* by Kakutaro NAKAGIRI, *Isha no fūzoku* by FUJIKAWA, and *Teien to fūzoku* by Mat-

sunosuke TATSUI. Only the second, or "middle," of these is of interest to us here. It is a brief, but well written and well illustrated book on the customs of the early Japanese physicians, the contents of which can be summarized as follows: on the origin of Japanese medical science; on magic; on philosophical medicine; on medical schools; on the "kinds" of medical science; on the social position of the physician; on the costume of the physician; on medical fees; and on the symbolism of the shaven head of the physician. In this book are noteworthy illustrations of the early Japanese physician making medicines and treating patients, reproduced in the form of drawings from certain old non-medical sources. Of interest is a facsimile list of the doctors practicing in Tōkyō, as published in the year 1884, giving names and addresses (in Japanese characters).

FUJIKAWA was editor-in-chief of *Kyōrin sōsho*, a work in five volumes, published in 1922. The associate editors were Kenzaburō OGAWA, Mitsunori KARASAWA, and Shirō AMAKO. It will be informative to describe the contents of this work as abstracts from old Japanese medical books, and to give some details. Volume 1 contains abstracts from the following eight books: *Honchō idan* (1822)—talks on Japanese medicine—and *Honchō idan nihen* (1830), each by Tsunenori NASU. These books mention seaweed as useful in the treatment of cystic swellings of the body, a medicine for a child which is "good" for erysipelas (tandoku), and congenital syphilis (taidoku). Pictures are shown of a typical physician with his assistant, and of a typical pharmacist of the period; also shown is a Japanese physician of five centuries ago, carrying a balance, because "to be very accurate in dosing drugs is most important." There is a sketch of a venerated statue of Sanki TASHIRO (1465–1537), one of the best and most famous of the early Japanese physicians, together with a diagrammatic representation of his medical "theory." According to this theory, the condition of the urine and stools are very important indicators of human health: ". . . if the blood becomes cold the person will have diarrhoea, and if hot the stools become black; if the blood does not circulate constipation results, if it circulates well the stool is normal; if the air is cold the urine output is increased, if air is hot the urine is red; if air in the body does not circulate the urine does not go out, if it does circulate well the urine will be normal." The other old books referred to in Volume 1 of *Kyōrin sōsho* are: *Honchō ika kosekikō* (1815) by Shutei NAKAGAWA; *Yamai-no sōshi* (12th–13th cent.) written by a priest JAKUREN, with paintings or drawings by Mitsunaga KASUGA (a Japanese artist of the Kamakura period); *Shinsen yamai-no sōshi* (1850) drawn by Ippō FUKUZAKI; *Keiei yawa* (1810) by Gempaku SUGITA (1733–1817); *Idan-shō* (ca. 13th cent.) by Tomotoshi KOREMUNE; and *Rangaku teikō* (1816) by Gentaku ŌTSUKI (1757–1827). Volumes 2, 3 and 4 also contain abstracts from old Japanese medical books, the sources of which are unknown. Volume 5 of *Kyōrin sōsho* comprises a collection of essays originally

written by Nankei TACHIBANA (died 1805), Jūsei HIRANO, and Shinkatsu or Ranken IZAWA (1777–1829). The essays, stories, and anecdotes by TACHIBANA are especially interesting, giving the gossip of physicians; on preventive hygiene against "colds" contracted around hot springs (with notes on bathing as a cure for disease); the romance of a physician-friend; a story of shipwrecked Chinese fishermen; and a description of an actual case of a disease of the legs causing swelling of one leg only (elephantiasis?). TACHIBANA had apparently designed a musical instrument "like a pipe organ," and was invited by Kōgyū YOSHIO (1724–1800), a famous Japanese physician of the period, to visit him in his "Western-style" room[3] at his home in Nagasaki. An autobiographical sketch by TACHIBANA states that he was very sick as a boy, had asthma at 39 years of age, and gives a self-description of his own case of a stomach disease (which was cured by going on a diet). The essays by HIRANO are on various aspects of medical science. The essays written by IZAWA were never published before appearing in *Kyōrin sōsho*, and are on anecdotes of physicians; on moxa and garlic (a mixture which is described as a medication "good" for boils and for disease of the breast of women); on whooping cough (noted as difficult to cure in children); on rice cakes (claimed as "good" for curing nocturnal incontinence); on a description of the ancient "disease-goblin;" and on Chinese medicines, with quotations from KŌ-TEI,[4] the legendary Chinese physician-emperor, and from other early writers. In its entirety, *Kyōrin sōsho* presents a remarkable survey of the medical lore of Japan in early and pre-Meiji periods.

The history of specific diseases as they have occurred in Japan was made the subject of another book by FUJIKAWA in his *Nihon shippei shi*, a work in one volume published in 1912 and apparently never reprinted. This book describes,

[3] Such rooms, not too uncommon at the present time in the homes of the upper middle class (or better) in Japan, were a comparative rarity in the early days and such an invitation was a signal honor, especially from one so great as YOSHIO.

[4] Japanese "reading" for HUANG TI (legendary dates, 2698–2598 B.C.), to whom was traditionally attributed the *original* writing of the ancient Chinese works known in Japan as *Sō-mon* (the Chinese *Su-Wên*) concerning philosophical, physiological, and anatomical subjects, and *Rei-su* (the Chinese *Ling-Ch'u*) a treatise on internal diseases and acupuncture. These works were parts of the Chinese *Nei Ching*, reputedly the oldest medical book in existence. Parts of the *Nei Ching* have appeared in translation in the literature of the Western world; see, for example, Léon Wieger: *Histoire des croyances religieuses et des opinions philosophiques en Chine depuis l'origine, jusqu'à nos jours* (Sienhsien: Hokienfu, 1917 and 1922), a small part of which, in turn, was translated into English by Percy M. Dawson in his paper entitled "Su-wen, the basis of Chinese medicine" (*Ann. Med. Hist.*, s.1, 7: 59–64, 1925). But the definitive work on that ancient Chinese medical classic is, of course, the recent translation by Dr. Ilza Veith of the first 34 chapters, which was published as *Huang Ti Nei Ching Su Wên, The Yellow Emperor's Classic of Internal Medicine* (Baltimore: Williams & Wilkins, 1949). In the introduction to her translation Dr. Veith says: "As the basis of all subsequent medical writing in China and Japan, it [the *Nei Ching*] affected the destinies of the peoples in a large part of the oriental world for thousands of years."

and discusses from the medical viewpoint, diseases as mentioned in old Japanese books and classical writings. Described in *Nihon shippei shi* are epidemic diseases (ekibyō), smallpox (tōsō),[5] chicken-pox (suitō or mizu-bōsō), measles (mashin), German measles (fūshin), cholera (korera), influenza (ryūkōsei-kambō), enteric or typhoid fever (chō-chibusu), and dysentery (sekiri). The Japanese names for these diseases are shown in parentheses, in Romaji characters. For each of these diseases FUJIKAWA has given the name(s) as derived from old sources, the physical conditions of the disease, the chronology of the disease, pathological considerations, methods of treatment, and references to the literature. Parallels are drawn with the history of these same diseases in Western countries, particularly in Germany. The illustrations emphasize the demonic origin of disease (Plate I C), methods to placate the wrath of such demons (thereby diminishing the incidence and severity of the disease), and hygienic measures for the household control of the disease and comfort of the patient. Originally projected as a two-volume work, for some unknown reason the second volume of *Nihon shippei shi* was never published and it is now believed that FUJIKAWA did not even write it in manuscript form.

A brief word about FUJIKAWA may be of interest. Although he always signed all of his books with the prename "Yū," this is actually a pseudonym, for his real given name was "Asobu." Born in 1865, coming from a long line of physicians, he studied in Germany and graduated in medicine from Jena; he was also a Doctor of Letters. FUJIKAWA'S lasting fame rests principally upon his monumental history of medicine in Japan, the *Nihon igakushi*, described above. He died in 1940, and his brain is preserved in the collection of brains of prominent savants in the Museum at the Tōkyō University Medical School.

From the series of basic historical works by FUJIKAWA we continue on our way with *Ishigaku ronkō* by Tetsu IWAKUMA, first published in 1943 and reprinted in 1946. This is a study in Japanese medical history, being largely a comparison of medicine in Japan with that in Western countries. The contents can be summarized as follows: how to study medical history and what can be learned from such study; Japanese medical history after the death of FUJIKAWA; a comparison of famous Oriental and Occidental physicians; a comparative study between the *Geka sōden* of Yeikyu or Chinzan NARABAYASHI (1648–1711) and Ambrosie Paré's *Chirurgie*; a description of the first dissection

[5] One of the delightful items in this collection is a short diary in manuscript, written in 1848 by the father of a young child suffering from smallpox. During the first three days the nature of the illness was unknown; then a diagnosis was made, and this diary is a day-by-day account of the visits of the physician and of the medical treatment ordered by him, with memoranda of medicines. Visits and presents from the patient's many young friends were also carefully noted.

done by a Western person in Japan;[6] and the history of special medical treatments: bloodletting, use of the stomach tube, inhalation techniques, etc.

We proceed to a brief consideration of other histories of medicine in Japan, and of certain Japanese-written histories of Western (i.e., European) medical science. *Nara jidai igaku no kenkyū* by Toshiyo HATTORI, published in 1945, is a study of medical science in the Nara period (710–784 A.D.) and describes the beginnings of medicine in Japan. The early religious influences are represented by portraits and writings of GANSHIN (died 763 A.D.), RYOBEN, and DŌKYŌ (ca. 762 A.D.), each of whom was a famous priest, and by lists of many kinds of medicines derived from Buddhist writings. Important early historical references are to two Chinese works known in Japan as *Shinshū honzō* (ca. 731 A.D.) and *Honzō kōmoku* (n.d.), each by unknown writers, and each on medicinal plants and minerals.

Historical narratives on the interval between "pure" Japanese medicine and Japanese knowledge of and attitudes toward Western medicine are to be found in two recent books. One of these is *Seiigaku tōzanshiwa* by Fujihiko SEKIBA, published in 1933, a two-volume work which is a series of historical tales telling how the Western medical science came to the East. Illustrative material consists mostly of portraits, but also includes other biographical information of Japanese physicians, as, for example, specimen handwriting of Seien or Genzui KOISHI (1784–1849) giving his philosophy about medical science. Some allusion is made to medical "truants" in Japan, and there are pictures of early operative procedures, and of special instruments for the surgical treatment of wounds. Reference is made to the *Geka shinmeishu* of Sōan INOUE, a book on general surgery published in 1610.

The other recent book is *Seiyō-izyutsu denrai-shi*, on the history of the introduction of Western medicine into Japan, first published in 1942 with a third edition in 1944. The author of this work, Jyūjirō KOGA, is not a physician but is a noted Japanese historian, born at Nagasaki in 1878. He was honored by Holland in 1920 and given the title of "Ridder in de Orde van Oranje-Nassau." This book is an excellent summary, giving the early and the later history of this subject from the voyages of the first Europeans visiting Japan[7] to an account of George Bruce Newton, an English naval surgeon who advised the Japanese government in 1868 to establish a hospital at Yokohama for the treatment of syphilis and who died at Nagasaki in 1871. KOGA gives great prominence to the influence of the Dutch and describes the work in Japan of the following Western physicians: Arnold Dirckz, Daniel van Vliet, Constantin Ranst, William ten Rhyne, Engelbert Kamper (or Kämpfer), Carl Peter Thunberg, Jan Cock Blomhoff, Pompe van Meerdervoort, A. J. C. Geerts, C. G. van Manvelt, and

[6] This dissection was performed on June 9, 1859, by the Dutch anatomist, Pompe van Meerdervoort, upon the body of an executed criminal. The place was Nagasaki.

[7] The Portuguese in 1543; later the Dutch in 1549.

A. F. Bauduin. (It is, perhaps, significant of our comparatively meager knowledge of medicine in Japan that the work of these men was completely overlooked by Garrison, and that there are only a few scattered references of a minor nature to Japanese medicine in his otherwise exhaustive chronology of world medicine and public hygiene.) Ambroise Paré's *Chirurgie* made a tremendous impression upon the Japanese and a copy of that classic French work (in Dutch translation) was owned by NARABAYASHI who translated parts of it in his *Geka sōden*. A picture of the copy of the Paré used by NARABAYASHI is one of the interesting illustrations in this history of European influences in the development of Japanese medicine. In olden time almost all Japanese physicians had "secret" treatments or medicines which they did not want other people to have. One such secret treatment used by the YOSHIO family in 1783 is reproduced in the form of handwriting, described as "a kind of 'bibliography' of works on how to bandage, how to cure wounds, how to treat diseases of the skin, and how to join broken bones." Another interesting illustration depicts an anatomical model of a longitudinal section, in the coronal plane, of the entire human body. This three-dimensional model was made of *paper*, and used for teaching at a medical school in Nagasaki. It should be remembered by the reader that it was at Nagasaki that the influence of Dutch medicine was first felt in Japan.

The widespread interest of the Japanese in medicine and science outside of their own country can, perhaps, best be introduced by reference to *Sekai igakushi*, written by Mō TOMINAGA and published in 1928. This is a history of world medical science, *exclusive of Japan*, arranged according to a chronobiographical scheme, with many small portrait illustrations of the great names in world medicine. Of special interest are chronological tables showing the parallel or simultaneous historical developments in medicine, in science, and in society and politics (including art, literature, etc.). This book has an extremely good alphabetical index of all names (printed in English), with subject titles in a separate index (printed in Japanese, except for terms for which there are no equivalent Japanese characters).

Seishū or Masanaga OGAWA (born 1874), a Japanese physician who has travelled and studied bacteriology in Germany, France, and Italy, and who was until 1925 a professor in the Kyushu Medical University, has written two books on the history of medicine in the Western world. One of these histories, published in 1931, is entitled *Taisei igakushi: Kodai chūsei hen* and covers the ancient and medieval periods. Of special interest are comments on anatomy and pharmacology as found in the *Iliad* and the *Odyssey* of Homer; on artistic representation of medical subjects, especially the paintings of Adriaen Brouwer; and an illustration of a zodiacal chart showing the seasons and time of the year (literally, from Japanese interpretation, "the twelve policies") and their relationships to parts of the human body used for acupuncture, with an outline

figure of the sites for acupuncture. This illustration was reproduced from a 15th century book in the Paris National Library, probably the *Fasciculus medicinae* (1493) of Johannes de Ketham.

The other book by OGAWA is entitled *Seiyō igakushi*, and was published in 1943. Although essentially a reprinting of his *Taisei igakushi* . . . much new material in both text and illustrations was added so that, for the Japanese reader, *Seiyō igakushi* brings European medical history to the beginning of the 20th century. There is also some comment on medical history in America. The Western medical texts which seem to have made the greatest impression on the Japanese historical mind are the *De Humani Corporis Fabrica*[8] of Andreas Vesalius, the *Chirurgie* of Ambroise Paré, and the *Elementa Physiologicae Corporis Humani* of Albrecht von Haller. The characteristic regard of the Japanese for ancestor worship and the veneration of the spirit of the deceased is reflected in excellent illustrations of the tombs of three European scientists—those of Paracelsus, van Leeuwenhoek, and Boerhaave. Neither *Taisei igakushi* . . . nor *Seiyō igakushi* contain any accounts of Japanese medicine or of the influence of Western medicine on the development of medical science in Japan.

To acquaint the Japanese reader with the history of medicine in the Western world further, Charles Singer's book *A Short History of Medicine* (1928) was translated into Japanese by Yoshihito SHINOTOH and Dōji MUKASAKA and published in 1930 as *Daiseibutsugakusha to seibutsugaku*.

According to FUJIKAWA, the first work on the history of medicine in Japan was the *Honchō ikō* of Dōyū KUROKAWA, published in 1663, and there appears to have been a hiatus in medico-historical writings in Japan from that time until the latter part of the 19th century. In 1884 at Tōkyō, Kashiro KAKU published a medical history of Japan with the title *Kokoku iji yenkaku shōshi*.[9] Incomplete citations have also been given by Whitney to the following Japanese writings on the history of medicine in the island empire: an unpublished (?) manuscript entitled *Dai nihon idō enkaku-kō* by Zensetsu KŌCHI or KAWACHI; *Nihon ijutsu enkaku-kō* (on changes in Japa-

[8] It is probable that the Japanese had no *direct* knowledge of Vesalius' work, since the engravings of the *Kaitai shinsho* were based, in part, upon the work of the Spanish anatomist, Juan Valverde, who copied parts of Vesalius' *De Fabrica* . . . , later appearing in the Dutch language as *A Vesalli en Valuerda anatomie, ofte afbeeldinghe van de deelen des menschelychen lichaems, en derselver verklaringhe* (Amsterdam: Cornelis Danckertz, 1647), a copy of which is known to have been used in Japan.

[9] This work was one of the bases for the long paper entitled "Notes on the history of medical progress in Japan" (*Trans. Asiatic Soc. of Japan*, 12: 245–469, 1885) written by Willis Norton Whitney, a physician and interpreter attached to the U. S. Legation in Tōkyō. This paper offers a wealth of information and, for the non-Japanese reader, is a "must" for any thorough understanding of the history of medicine in Japan. The check-lists of Japanese (and Chinese) medical books and of names of physicians appended to that paper are particularly complete.

nese medical art) by Kisei MURAMATSU; *Kikon* (on "strange spirits" or ancient rules of medicine) by Shinji ŌTSUKI; and *Ko-idō enkaku-kō* (notes on ancient Japanese medicine) by Naosuke GONDA (1809–1887).[10] Unfortunately, none of these works can be dated[11] but they were all probably written or published during the period from about 1850 to 1885. In addition to these, Ryōan or Riyō IMAMURA (1814–1890), author of a two-volume book on beri-beri, *Kakke kōyō* (1861), and a volume on general therapeutic procedures, *Sanbi yōkō* (1875), also wrote on the development of Japanese medicine, in his *Nihon idō enkaku-kō* (n.d.).

Mention has been made of an uncertain period in Japan yielding few, if any, medico-historical writings. Attention should be called, however, to a work entitled *Kokushi igenshō* (Plate I D), published in 1834–35 by Koremichi or Kentoku YOSHIDA (died 1837). This four-volume work is on the history of early Japanese medicine as that was exemplified by his editorial comments on the medical sections of ancient Japanese historical writings (in Vols. 1 and 2) and by medical quotations from old Buddhist books (in Vols. 3 and 4). It may be of interest to note here that the early Japanese historical writings containing medical sections are principally the *Kojiki*[12] (extracts on skin diseases, with medicines for treatment, and obstetrics), the *Nihongi* or *Nihon*

[10] One of the more famous Japanese physicians, who also found time to write three other books on early medicine in Japan: *Koikō keiken ryaku*, *Koidō chisoku*, and *Koichō yakuhō*.

[11] The problem of dating old Japanese books will recur repeatedly, and appears to be due, in part, to a characteristic of the Japanese themselves to whom precision in historical dating is (or was) a relatively unimportant matter—unlike the corresponding viewpoint in the Western world. Indeed, some of the old books were printed with no dates at all, and locating them in their "true" historical perspective must be based largely upon concensus of opinion, agreement with known dates in the life of the author, links with a knowledge of the subject of the writing, etc. Since the beginning of the Meiji period (1868), and more particularly in recent years, the modern use of a colophon page bearing the device or monogram (hankō) of the author has tended to solve this problem.

[12] *Kojiki*, the "Record of Ancient Matters," was found by the writer while in Japan to be surrounded by a great deal of mystery as to how much it consists of, when it was written (ca. 712 A.D. ?), and by whom (supposedly by one Oho-no YOSUMARO) . . . evidently going through countless successive manuscript copies. In a bookshop in Nagoya the writer was offered a set consisting of a stack of 59 volumes, a set consisting of only four or five volumes, and another of three volumes—each edition described as "complete." Because of the nature of the reproduction, I finally decided on a three-volume photographic facsimile edition of 1945, edited with explanatory notes by Yoshio YAMADA (born 1873), one of Japan's foremost living scholars. The original manuscript, dated 1266, of this edition is preserved in the Shimpukuji

PLATE I. A. Title page of original edition of the *Nihon igakushi* (1904). B. "Customs" of early Japanese physicians. *Upper:* A physician making medicines, and one taking the pulse. *Lower:* A physician examining a wound, and another taking the pulse. C. *Eki-ki*, the "demon of illness," attacking a household. D. Title leaf of original edition of the *Kokushi igenshō* (1834–35).

shoki[13] (extracts on legends and traditions regarding childbirth), the *Shoku nihon gi* (extracts on multiple births), and minor quotations from *Nihon kōki* and *Shoku nihon kōki, Montoku jitsuroku* and *Sandai jitsuroku.* A few extracts from these volumes may be of interest. Medicines for the treatment of skin diseases included human milk, "water" from shell-fish, and burned shell. A Japanese legend of childbirth (but having a wider application) affecting an ancient god and goddess runs somewhat as follows: ". . . when she was to bear a child she asked her husband not to see her 'situation.' But he wanted to see, and what he saw was unpleasant so he was astonished and ran away 'under the (peach) trees.' The wife asked a servant, who was like a goblin, to chase her husband. When he saw that he might be seized, he threw peaches at the goblin and drove him away. Following this legend, the peach has been regarded (in Japan) as a fruit which will 'cure' something that is bad or ill." The traditions regarding childbirth were unique in each separate village. In olden time the fortune-teller, called the "calendar reader," was also important as a practitioner of medicine. During the era of the Emperor Bintatsu (6th cent. A.D.), there was much smallpox in the land, but the people did not "know" the disease and they were very frightened.[14] The birth of quadruplets is mentioned as having occurred in 699 A.D. and again in 752, and an instance is given of repeated multiple births to the same mother. The education of

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Temple (Buddhist) in Nagoya, and is referred to as the *Shimpukuji text of Kojiki.* It was copied between the years 1368 and 1371 by an obscure priest named KANYU (Plate II A). Based on Japanese mythology and legend, *Kojiki* may be considered as too literary in style to be called history. But, whatever it is called, it does include many medical references, and is one of the few sources of information about ancient Japanese medicine, the practice of which was based on legend, myth, and magic. Norinaga MOTOORI (1730–1801), a famous Japanese physician and man of letters (poet), wrote a monumental exposition and commentary in 44 volumes on this ancient work, giving it the title *Kojiki-den* (1789, passim). It is obviously difficult or impossible for a foreigner in Japan to try to unravel the bibliographical peregrinations of *Kojiki,* and it is worth noting here that one version of this ancient work was translated into English by Basil Hall Chamberlain and published in 1883 as the Supplement to Vol. 10 of the *Transactions of the Asiatic Society of Japan,* and it was also reprinted in London in 1932. (Since my return to America I have found that my choice of a photographic facsimile of *Kojiki* was the wise one, since Dr. Post Wheeler in his comprehensive analysis (and synthesis) of ancient Japanese writings, *The Sacred Scriptures of the Japanese* (New York: Henry Schuman, 1952. 562 p.), refers to the Shimpukuji manuscript as the oldest existing text of the *Kojiki,* now one of the National treasures of Japan, and he states that it is *not accessible for the use of scholars.*)

[13] Translated into English by W. G. Aston as *Nihongi, Chronicles of Japan from the Earliest Time to A.D. 697* (London, Kegan Paul, 1896), forming Supplement 1 of the *Transactions and Proceedings of the Japan Society.* Also, Books 1, 2, 22, and 30 were translated into German by Karl Florenz as *Japanische Mythologie. Nihongi, "Zeitalter der Götter." Nebst Ergänzungen aus andern alten Quellenwerken* (Tōkyō, Hobunsha, 1901. 341 p.).

[14] According to FUJIKAWA, the first Japanese work on variolation was *Shuto hitsujunben* by Shunsaku OGATA (1748–1810), published in 1795.

students for medicine is recorded in 730 A.D. Volumes 3 and 4 of *Kokushi igenshō* contain medical quotations from the following old Buddhist books: *Bussetsu nanyo giiki innen-gyō* (giving an account of medical episodes in the personal history of a girl), *Rabana setsukyūryō shoni shitsubyō-gyō* (on legends regarding children's diseases), *Kashō-sennin setsui nyonin-kyō* (giving medical, i.e. obstetrical, advice to an ordinary woman), *Bussetsu ryōjibyō-kyō* (on hemorrhoids), and *Konkōmyō saishōo-kyō* (containing descriptions of medicines). The parenthetical expressions describe the general nature of the medical quotations selected by YOSHIDA. Some extracts from certain of these old Buddhist sacred books (including Tibetan sources) may also be of interest. Considering the child from birth to twelve years of age, an old legend states that there are twelve different goblins and each one causes a certain disease. . . medicines and procedures to effect cures are in accordance with the child's 'situation' and the particular goblin concerned. Another superstitious belief was that a sick baby should be faced to the *west*. A sick older child should go to a priest or to a god to pray for a cure, and it is noted that the gods were different for children of different ages. *Ten* months was given as the "normal" duration of pregnancy, but the birth was sometimes delayed and reference is made to human gestations of as much as twelve months. Medicines for a pregnant woman were given in accordance to the month of the pregnancy. None of the original sources referred to above can be dated with even approximate precision, and their authorship is obscured by the veil of the centuries since they were originally composed. *Kokushi igenshō* is, then, a remarkable record of early Japanese medical beliefs. There are no illustrations in this work.

Biographical Works

Japanese medical biography is represented in this collection by a beautifully illustrated modern book by Gōichi FUJINAMI (born 1880), published in 1936 and entitled *Ika sentetsu shōzō shū*. This unusual volume includes biographical sketches and half-tone portraits of about 160 famous Japanese physicians, from the early Sō (priest-physicians) of the pre-Nara period (ca. 700 A.D.) to the modern physicians at the end of the Edo period (1867). All of the portraits are intriguing, notwithstanding the stylized poses in most of them. Although the features or configuration or other details of some of the portraits may appear to be misshapen, the reader should not be deceived by this . It was not uncommon for the Japanese artist to portray his subject, not necessarily in a precisely truthful likeness, but rather to emphasize outstanding traits by simple lines, sometimes even suggestive of a caricature. For example, one physician who was known to be stubborn is shown with a very obvious bump on the top of his head; another is depicted with large ears—"lucky ears"—which denote a rich man, and show that he had achieved happiness and satisfaction in life. The portraits in *Ika sentetsu shōzō shū* are by various artists, and were

gathered together from museum collections and from private sources. By this time the reader should be aware that the predilection of the Japanese—especially the early scholars—for using pseudonyms, aliases, and pen names often makes accurate identification difficult. Even recourse to years of birth and death is not without its problems, too, because the conversion from Japanese periods or eras to the Western calendar is not always an exact process. Translations ("readings") of names, especially the prenames, are also fraught with many serious differences in spellings. Genealogical complications arise, too, from the habit of adopting professional assistants (or, as the Japanese say, he "entered into . . ."). This was especially prevalent in the early days, where often the given name of the family head was assumed by the adoptee. FUJINAMI emphasizes the importance of authenticated portraits, such as are in this work, to help overcome the difficulty imposed by differences in Japanese "reading" of proper names, and comparison with the portraits in other authoritative writings leaves little doubt as to "who was who." *Ika sentetsu shōzō shū* is a unique modern source book on the great names in Japanese medicine—the TAMBAS, the MANASES, the YAMAWAKIS, the KAGAWAS and other familial dynasties, together with a brilliant array of individual physicians, all influential in the historical development of medicine in Japan.

FUJINAMI did not refer to any pre-existing Japanese writings on medical biography, but it is known that Sōhaku or Koretsune ASADA (1813–1894), himself a noted physician, compiled a six-volume biographical dictionary of famous Japanese physicians. This work was published with the title *Kōkoku meiiden* (n.d.).

Although by no means exclusively medical, reference should be made to the most important Japanese biographical source book in current use: *Shinsen dai jimmei jiten* (1937), commonly referred to as "HEIBONSHA'S Biographical Dictionary." The title means, literally, "new selected big persons name dictionary," and is in eight volumes. Volumes 1 though 6 are of famous Japanese, Chinese, and Korean persons; volumes 7 and 8 are of famous foreign persons.

Dōsan MANASE (1507–1595), perhaps the most famous of the early Japanese physicians, and prolific writer in the entire field of medicine[15] as then practiced in Japan, was the reputed author of the only known early study on the diseases of famous persons, a two-volume work entitled *Igaku tenshoki* (n.d.).

The "medicine of history" is one of the more intriguing aspects in the cultural study of medicine, and one with rather wide implications. It was entirely blocked

[15] Author of the *Keiteki-shū*, a handbook of practical medicine in eight volumes, written between 1571 and 1574 and based upon pre-existing Chinese texts. FUJIKAWA referred to this work as the most comprehensive, if not the most important, medical writing produced in Japan up to that time.

out, from the bibliographical point of view, by my close friend the late Dr. Judson Bennett Gilbert of Schenectady, New York, whose work was left unpublished at the time of his premature death in 1950. But, as it is to most Americans, the Japanese medical literature was unknown to him. Attention should be called, therefore, to any Oriental contributions to the medical biography of the great men (and women) of history. Such a recent contribution is *Van Gogh no shōgai to seishinbyō*—English title: "Vincent Van Gogh, His Life and Psychosis"—by Ryūzaburō SHIKIBA,[16] a two-volume work of tremendous proportions published at Tōkyō in 1932. Of a total of 1468 pages of text and illustrations, over 100 pages are strictly medical (psychiatric) and justifies the inclusion of this study in the present paper. But, especially in the "case" of Van Gogh, it is absurd to dissociate his artistic and literary activities from his mental imbalance, and this work by SHIKIBA also presents a complete biography, a review of letters, a summary of the works of Van Gogh with notes on exhibitions, and ends up with a rather comprehensive bibliography of Van Gogh covering published material in all languages. The illustrations seem to be well-chosen, and of particular interest is a group of reproductions of *all* of the known self-portraits of Van Gogh. Included in this work is a short medical note on Van Gogh, written by Shigeyoshi or Mokichi SAITŌ (died 1953), a famous Japanese physician and poet. *Van Gogh no shōgai to seishinbyō* is unquestionably one of the most important medical studies of that Dutch painter, etcher, and lithographer to appear in recent years, and the fact that it is of Japanese origin has evidently obscured it from our view. Printed in a limited edition, the set in the writer's library is one of three copies reputed to be in America (and the *only* one definitely known by the author to be in this country).

Of bibliographical importance as a reference work is *Saishin nippon-rekishi-rekishi-nenpyō*, compiled by K. OMORI and S. TAKAHASHI (published 1945, passim). This is the standard book used to convert dates from Japanese periods or eras to the Western calendar.

Although this paper is concerned with *Japanese* medical books, it soon becomes obvious that one cannot entirely divorce the medicine of Japan from that of China, and I should probably be remiss in my obligation to medical librarians generally—and particularly to those who are my personal friends—if I neglected to call attention to an eight-volume work by Yasunaga or Rekisō TAKI (1755–1810) entitled *Isekiko*, or, sometimes, *Iseki nenpiyō* (n.d., but

[16] The author of this work is one of Japan's foremost living psychiatrists, an essayist and short-story writer, and is probably the world's leading authority on Van Gogh. My own meeting with Dr. SHIKIBA at his home and hospital in the middle of a pine and bamboo forest in Ichikawa, Chiba-ken Prefecture, early one rainy morning, was one of the memorable "adventures" in my book-hunting experiences in Japan.

reproduced in a facsimile edition in 1933). This work, by a noted Japanese physician, has been referred to as the most comprehensive descriptive bibliography, presently available, of *Chinese* medical books.[17]

Early Medical Works of a General Nature

In the *Kojiki* it is related that after the mythological creation of Japan by two Shintō deities, Izanagi (male) and Izanami (female), the art of healing was originated by Ōkuni-nushi-no-kami and Sukunabikona-no-kami, who thus became the founders of ancient Japanese medicine. The first books clearly on medicine composed or written in Japan were the *Daidō ruijūhō* (808 A.D.), a collection of (medical) recipes of the Daidō period, the original writing of which has been lost and existing books of the same name are "false books;" the *Kinran-hō*,[18] or "Golden orchid prescriptions," a work in 50 volumes written during the Jō-kwan era (859–870 A.D.) by Minetsugu SUGAWARA at the command of the Emperor Seiwa; and the *Ishinhō* (982 A.D.) by Yasuyori TAMBA (912–995 A.D.). Many Chinese medical writings were used in Japan during and after these periods, and were "required reading" for Japanese medical students. It should be pointed out that there were few or no illustrations in early Chinese and Japanese medical books because it was believed that they were not necessary to explain the text. In 1314 the *Mannan-hō* was composed by Shōzen KAJIWARA; this was a Japanese textbook of medicine in 62 volumes, based upon Chinese works on the art of healing as practiced during the Sung dynasty. FUJIKAWA mentions a Chinese book on medicine, known in Japan with the title *Ishnotaizen* (an original copy of which was apparently owned by one Sōzui ASAI) as the first ***printed*** book in Japan on medicine; the year was 1528. It is the purpose, by references such as these, to call attention to outstanding or unusual or "first" medical works, some of which will be referred to again as may be appropriate for the discussion in other sections of this paper. Conversely, certain other "general works" may be referred to elsewhere and not also included in this section. The Japanese medical literature is a difficult field to work in, and any nonconformity with "good" historical-bibliographic styling which may (inadvertently) be present in the text of this paper will be straightened out in a short-title check list of books in Part II, where the specific or general nature of each reference will be clearly indicated.

Many of the Japanese and Chinese works referred to by FUJIKAWA in his history of medicine in Japan would naturally be included in this category—and there are many such books. The reader will understand that only those books which were caught in the writer's net during his recent book-hunting ad-

[17] Chinese medical books are supposed to have been first introduced into Japan in 562 A.D.

[18] The original work is a National treasure of Japan, and is preserved in the Imperial Library at Tōkyō.

ventures in Tōkyō and Nagoya will be described in this section although, as before, references will be made to other works as seems appropriate. The characteristic desire of the Japanese people to please, usually to be appreciated, can sometimes lead the unwary foreigner astray. A case in point will serve to introduce the first of the books in this section which are actually in the writer's collection: *Nan-kyō hon-gi* by KATSU Ju (died ca. 1368), first published (posthumously) in Japan in 1607 and reprinted in 1633. This is a commentary in one volume upon *Nan-kiyo* (more correctly, *Hachi ju-ichi nan-kyō*), which was a small but classical treatise originally composed in China in the 3rd century B.C. to explain the works entitled *Sō-mon* and *Rei-su*, and which was supposed to have been revised by a Chinese physician, KATSU Hakunin,[19] and printed in Japan in 1533 (?). When I asked the bookseller if he had "*Nan-kiyo*," I was offered *Nan-kyō hon-gi* as being "in the same way." Quite a difference, but I appreciated his intention—which was to help, not just to sell. Such incidents, partly engendered as a result of the mutual inability to communicate fully on a language basis, happened several times. But through the many kindnesses of my Japanese friends eventually every book and every author was fully and correctly identified.[20] *Nan-kyō hon-gi*, then, explains by text and diagrams (Plate II B) the "system" of the *Hachi ju-ichi nan-kyō*, and is, apparently, the supposed revision by a Chinese physician of that earlier work. Incidentally, "Hakunin" is an *alias* of KATSU whose real prename was Ju. The "medicine" in . . . *Nan-kyō* . . . was based upon the Chinese philosophical concept of a theory of five-elements, consisting of fire, water, wood, earth, and metal, upon the positive and negative theory of the Yin and the Yang, and defining relationships or analogies between the structures of the human body and objects found in the external world (reminiscent of the ancient belief in Japan, as in China, of the human body as a "universe in miniature"). This book is not the earliest one in this collection of Japanese medical works, but it is the most primitive in content.

A possible early Japanese forerunner of the home medical advisers—so popular in America in the Gay Nineties—is *Kō kei saikyūhō*, first published in 1789 and quickly followed a year later by at least one more edition. It was written by Gentoku or Motonori TAMBA, who was also known as Rankei TAKI (1732–1801). The title means, literally, "wide benevolence and emergency prescriptions," and this three-volume work is unique in that it was com-

[19] It should be pointed out that the Oriental custom of using the surname first, together with our unfamiliarity with Oriental prenames, can act as a trap to confuse personal identities. To avoid this I have chosen in this paper to show all Oriental surnames entirely in capital letters, and the reader can reverse the order of these names if he wishes to do so; however, *Chinese* names are given with the surname first, to further distinguish them from the Japanese.

[20] Specific acknowledgment of this assistance, and of the help of others, will be made in Part II of this paper.

piled at the specific command of the shogun, Iyeharu, before his death in 1786 for the promulgation of medical knowledge among the common people, describing how to remedy maladies of various kinds without the help of a physician.[21] Of interest in this general medical "handbook" is an illustration of the most famous of all moxa spots, called "sanri," with detailed directions telling how to "know" it. *Sanri* is a superficial spot on the antero-lateral aspect of the (left) leg, three "leagues" (or Japanese inches = sun = 3.3 cm.) inferior to the depression formed by the condyles of the femur and tibia and the border of the patellar ligament. It is not known why, among the literally hundreds of sites for moxibustion, this one should be the most famous, and the reason is probably buried in the traditions of historical usage. The only thing we can say now is that moxa was applied at the spot "to run fast." As is to be expected in a work of this nature, the remedies were based upon the adaptive use of things commonly found in the early Japanese home; and for medicines to be compounded from ordinary flowers, plants, or trees, and from animals, including birds, molluscs, and fish. Because it was intended for use by the common people, *Kō kei saikyūhō* was written in easy Japanese "reading."[22]

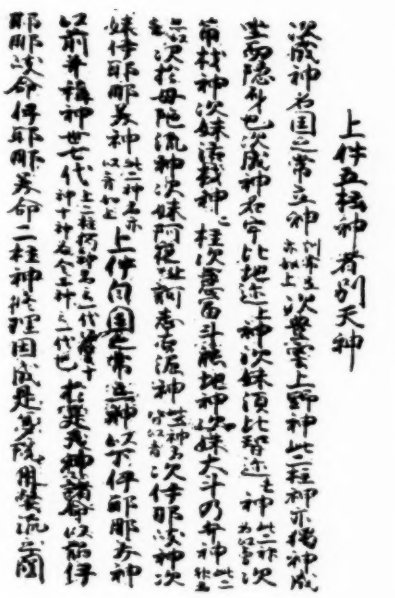
Somewhat similar in nature is a work entitled *Byōka suchi*, by Kakukei or Shigesata HIRANO, published in eight volumes from 1832 to 1834. Volumes 1 and 2, subtitled *Kokoroegusa*, are on general hygiene,[23] on the medicinal uses of foods, and on the practical use of massage. There is a description of a home pharmacopoeia, and there are illustrations of nursing care. Warnings are made against superstitions in medicine. Volumes 3 and 4 have the same subtitle and are not dated exactly, but must have appeared about 1833. They are on obstetrics and gynecology, with a section on the care of babies. Volumes 5 and 6 are subtitled *Kotobukigusa*, and were published in 1834. They give practical knowledge about sickness in the home, to be read by either the patient or his family. Volume 5 opens with a short history of syphilis (baidoku), followed by a description of the physical condition (pathology?) of this disease

[21] It should be pointed out that in olden times in Japan the profession of medicine was hereditary, and at the time of the publication of *Kō kei saikyūhō* there were not many physicians in the land.

[22] In this work will be found the original illustration showing how to save the drowned reproduced as Fig. 40 on p. 109 in Castiglioni's *History of Medicine* (New York, Knopf, 1947. 2d ed.).

[23] FUJIKAWA credits Hiroizumi MONONOBE (785–860 A.D.) with composing the first Japanese work on hygiene, *Setsuyō-yōketsu* (n.d.), and states that the original writing was lost.

PLATE II. A. First leaf of the *Shimpukuji texi of Kojiki* (1266, copied 1368–71). B. Diagrammatic representation of the "system" of the *Hachi ju-ichi nan-kyō*, from *Nan-kyō hon-gi* (1633). C. A typical leaf of the *Rangaku kaitei* (1783), with Japanese ideographs interspersed with the *kana* syllabary. D. Anatomical diagram of Chinese origin, showing internal organs, from *Idō nichiyō kōmoku* (1709).



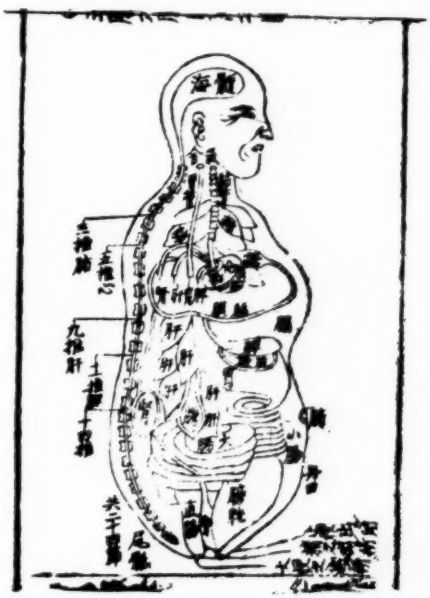
A

難經圖
經脉始從中焦流注圖

B

men leeren.
人 習
Hy brengt gant-
他 終
ſche nagten met
夜 以
leeſen door.
晝 讀 徹
Jk heb al myn
我 悉 吾
Jk wenſch u goe
我 望 你 吉
den dag myn heer.
日 君 吾
Jk ben u dienaar.
我 者 你 臣
Ouden zal men
老 可 人
eeren jongen zal
敬 少 可

C


腦
心
肺
肝
膽
脾
腎
小腸
大腸
膀胱
尾骶

D

in the patient and general knowledge concerning it. Other subjects considered in *Kotobukigusa* are: tinea or ringworm (tamushi), influenza and fever, beri-beri (kakke), fainting and dizziness (memai), madness (kichigai), intestinal worms (sanada mushi), seasickness, burns and scalds, dog bites, snake bites, rat bites, and on cuts, bruises, and wounds, with illustrations on how to make and apply bandages.[24] In our modern times of super-specialization it is worth noting that in those days in Japan whenever joint dislocations occurred the patient was advised to call, not a physician but a "hone-tsugi" (a bone setter). Volumes 7 and 8 of *Byōka suchi*, which are subtitled *Zaba hikken*, will be described in Part II of this paper in the section on early Japanese obstetrical books.

In 1839 an English physician named Benjamin Hobson went to China where he spent twenty years in study and practice. He learned to read Chinese, and found that the Chinese medical books of that time were not correct so he tried to "make them right." While in China he made friends with a Chinese physician, CHIN Shū-dō, and together they helped each other make paper anatomical models and collect European medical books. One result of this sojourn of Hobson's in China was his writing, in 1851, directly in the Chinese language, of a treatise on human physiology, with notes collected from various physiological books (chiefly English printings). This was a work which CHIN under the pseudonym of "Nankai," later translated into Japanese and published in Japan in 1857 as the *Zentai shinron*, in two volumes. This title literally means "a new theory of the whole body," and is a peculiar mixture of human and comparative anatomy, with many detailed drawings of the skeletal system, muscles, arteries, veins, nerves, viscera, and the organs of special sense with their physiological rationale described in text. Of particular interest are illustrations of microscopic sections of skin, showing hair follicles, sweat glands, and sebaceous glands. Drawings of the vascular tree clearly show the influence of European knowledge. An intriguing illustration is a picture of "heroic wrestlers," showing the functional "play" of the superficial muscles of the body in action—an illustration which foreshadows this technique as a teaching medium by the use of similar poses (with photographs) in standard present-day anatomical texts.[25] *Zentai shinron*, as the Japanese translation of Hobson's writing on anatomy, physiology, medicine, surgery, gynecology, and pediatrics,

[24] In olden times when the Samurai committed hara-kiri (more correctly "seppuku," as the classical term for suicide by cutting the belly) he did not always kill himself, and of special interest are instructions of what to do if he was found still alive and an illustration showing how his wound should be bandaged.

[25] For example, in *Cunningham's Text-book of Anatomy* (N. Y., Oxford, 1953), in books like R. D. Lockhart's *Living Anatomy* (N. Y., Oxford, 1952), and in recent publications in the field of art and anatomy. For the Japanese reader, this subject has been fully elaborated by the work of Akihiko TSURUMARU entitled *Geiyō kaibō zu-shū*, published in 1950.

was widely read by Japanese physicians and had a considerable influence on the later development of medicine in Japan.

The story of how the *Kaitai shinsho*[26] came to be composed was described in *Rangaku koto hajime*, written by Gempaku SUGITA in 1815 when he was 83 years of age, but first published posthumously in 1869 in two volumes. On March 4, 1771 near Tōkyō a female criminal named Aocha-Baba ("Old Woman Green-tea") was executed (beheaded), and, as was then the custom, her body was dissected by the executioner, a man experienced in such matters. Present as witnesses at this (now) historic event was a small group of Japanese physicians, headed by Gempaku SUGITA and Ryōtaku or Rankwa MAENO (1723–1803). As the viscera were displayed the structures were compared with the plates in the *Tabulae anatomicae* (Amsterdam, 1731) of Johan Adam Kulmus (or Kulm) and also with those in contemporary Sino-Japanese textbooks of medicine. Great was the excitement of these men, who had had a desire to make practical observations and to compare them with the anatomical pictures they had seen in Kulmus' book, to find those drawings confirmed in the reality of the demonstration on the body of Aocha-Baba (who was thus to attain some small measure of immortality). After this experience these physicians, all friends, gathered at the home of one of them and looked again at the *Tabulae anatomicae*, but they couldn't understand it since their knowledge of the Dutch language was so limited (even for MAENO, who was called "Rankwa"—meaning *the Dutch ghost*). SUGITA decided, therefore, to study the Dutch language so that he could translate the work of Kulmus into Japanese. In addition to this interesting story, *Rangaku koto hajime* also describes the beginnings of Dutch science in Japan, with stories written in essay style telling how the Japanese doctors studied Dutch science and medicine at Nagasaki.[27] Originally written in 1815, it was transposed from *classical* Japanese into *modern* Japanese by Tomio OGATA and republished, with illustrations, in a first *modern* edition in 1941, followed by at least five successive editions up to 1944. Dr. OGATA is Professor of Serology in the Tōkyō University School of Medicine, and a recognized authority on the life and writings of Gempaku SUGITA.

The work of translation to create the *Kaitai shinsho* also resulted in the *Rangaku kaitei*, the first Dutch grammar in the Japanese language (Plate II C), compiled by Gentaku or Bansui ŌTSUKI (1757–1827), a noted physician, and first published in 1783 with apparently a later edition in 1788. This work was, of course, a necessary and influential factor in the "westernization" of Japanese medicine in the Edo period. *Rangaku kaitei* is an introduction or guide book for an approach (literally, a "ladder") to Dutch knowledge and language,

[26] It is generally considered that the publication in 1774 of this book first introduced *scientific* anatomy into Japan; it will be described in the section on anatomical works.

[27] Parts of this work were translated into English by K. MITSUKURI in a paper entitled "The early study of Dutch in Japan" (*Trans. Asiatic Soc. of Japan*, 5(pt. 1): 207–216, 1877).

together with recommendations of books to be studied for medicine and other sciences. It is in two volumes, the first of which describes the attitude of the Japanese toward Dutch science; the second volume giving the linguistic aspects of Dutch study, with a bibliographic guide. (This bibliography referred to certain European medical works and other writings, in translation or abstracts in Japanese, which were amusingly remarked by ŌTSUKI as "well worth reading—if you can get them.") A postscript[28] to *Rangaku kaitei* was written by Hoshu KATSURAGAWA (1750–1809), a physician famous in Japanese medical history.

The epidemic disease, cholera, was the subject of a book with the title *Korera byōron*, published in 1858[29] in two volumes. Volume 1 was written by Ryōmin SHINGŪ, Ryōkaku SHINGŪ, and Tatsukichi OMURA. Actually, this work was largely a translation into Japanese of an unidentified book[30] on cholera originally written by a German physician (who, it is stated, had himself suffered from the disease) tentatively identified as G. Most (?), a book which was supposed to have been published at Amsterdam or Rostock in 1834. However, *Korera byōron* was the first publication on cholera in Japan and was written (translated) because at that time, in spite of the experience of an earlier epidemic, no Japanese books on cholera could be found. *Korera byōron* gives the then prevailing theories and opinions about cholera, with notations on the Japanese knowledge of the subject, and describes the physical condition of the patient, pathology, treatment (including acupuncture for blood-letting, hot baths, external medicines, and massage, with Japanese prescriptions for cure), and discusses the cause of this disease. There is a section on the *history* of cholera, tracing its origin in India and its spread to other countries, with an account of the history of treatments in use outside of Japan. Quotations are also given from other books. Volume 2 was written by the two SHINGŪS, with the help of Shunryū NAGARA, and includes a statistical tabulation of cholera cases in various parts of the world, arranged by age, sex, marital status, and profession or occupation, giving the number of cases cured and the number of deaths. There is a section presenting clinical case reports. Oriental or Asiatic cholera is described, and a comparison is made between true cholera and "pseudo-cholera." Apart from its medical interest, *Korera byōron* is also a unique example of printing in Japan, wherein the Japanese characters are set as individual

[28] Another postscript was also written by a person not fully identified, since the custom among Japanese scholars of the Edo period (1616–1867) was to shorten their names to one character only, after the Chinese habit.

[29] This year marked the second appearance of cholera in Japan, the first epidemic having been recorded in 1821.

[30] As was too often the case, the early Japanese writers of medical books did not always give clear-cut references to any pre-existing foreign works which they may have translated in whole or in part.

wood-blocks to compose the printed leaf, and are not all cut into one large flat wood-block as was the customary practice.

Of unusual interest is a one-volume work entitled *Idō-chōhō-ki* or, more correctly, *Idō nichiyō kōmoku*, which is a Japanese printing of what was probably originally a Chinese medical text by an unknown author. The *editor* was Masatoyo HONGŌ, and the original Japanese edition was dated 1709, with an enlarged edition published in 1780, and a later one in 1818. This book was evidently a popular one. It is a description of the everyday use of medical treatment, for medicine and surgery in general. The unique interest for us is that *Idō nichiyō kōmoku* was "a book for a person who is going to be a physician," apparently an early textbook designed particularly for the use of medical students. There are chapters on obstetrics and gynecology, pediatrics, massage, pharmacology (giving prescriptions), moxibustion, and acupuncture. A very important illustration in this book is a diagram showing the internal organs (Plate II D) as divided or classified into the five Zō (spleen, heart, liver, lungs, kidneys) and the six Fu (colon or large intestine, small intestine, gall bladder, urinary bladder, stomach, abdominal cavity[31]). Since the original 1709 edition of this work is pretty much a direct copy from an early Chinese text, the archaic forms of the viscera are not surprising, but their persistence in the later editions—after the time when dissection of the human body had so materially changed the Japanese knowledge of human anatomy—can only reflect the lag which must have prevailed in Japan between the learning (or "discovery") of new ideas and their general acceptance.

Anatomy

It is well-known that the vague, almost mythical, anatomical concepts of early Chinese medicine also prevailed in Japan for many centuries. Indeed, there were no anatomies, as such, produced in Japan until the latter part of the 18th century. Although but few of the anatomical works then written were based upon *original* investigation, they were, nevertheless, very important factors in the gradual transition of Japanese medicine from the ancient traditional beliefs of the Chinese through the European influences to the emergence of Japan as a modern nation with respect to medical knowledge and practice, with not a few significant contributions to medical science to its credit.

Separate Japanese publications on the history of anatomy in Japan are probably very few.[32] I know of only one, entitled *Edo-jidai no seirigaku* (A short history of the anatomy and physiology of Japan in the Edo period), written

[31] Abdominal cavity = sho = various parts, and, in the sense used in this old book, consists of the region below the heart and above the stomach, the region around the stomach, and the region above the urinary bladder.

[32] Briefly outlined, however, in its general features by Gakutaro OSAWA in his paper entitled "Zur Geschichte der Anatomie in Japan" (*Anat. Anz.*, 11: 489–504, 1896).

by Koichi UCHIYAMA and Akira ISHIHARA published (in reprint) in 1947–48. It is very clear throughout that study that the Japanese anatomical writings during the Edo period were largely translations, in whole or in part, of pre-existing European medical books. References are made to the following Japanese anatomical works: *Zō-shi* by Tōyō YAMAWAKI (1705–1762), a work in two volumes on the viscera as deduced from actual dissections,[33] published in 1759; the *Kaitai shinsho* of Gempaku SUGITA, first published in 1774 and described below; *Ihan teikō* by Shinsai UDAGAWA (1769–1834), text published in 1805 with an atlas in 1808, and also described below; *Jūtei (or Chōtei) kaitai shinsho*, published in 1812 by Gentaku ŌTSUKI (1757–1827), the atlas of which is described below; and *Kaizō-zufu* by Tōzo IKEDA, an original work on the description of an autopsy, published in 1821. Unique among the illustrations in *Edo-jidai no seirigaku* is a reproduction of a "kaitai shinzu" (rare picture), a drawing made in 1783 by Ranshu YOSHIMURA of the dissected body of HEIJIRO, an executed criminal. Several portraits of famous Japanese physicians are scattered throughout the text, and most of these men are named in this presentation as the authors of the books referred to in this section or in the section on physiology and pharmacology. *Edo-jidai no seirigaku*, by Koichi UCHIYAMA and my friend Akira ISHIHARA, is an altogether delightful historical writing on anatomy and physiology during the Edo period in Japan.

Brief notations of other early Japanese anatomical works of importance are as follows: *Kaishihen*, an original description of the opening of a cadaver, published in 1770 by Nobuto KAWAGUCHI and Gengai OGINO (a work considered by some writers as the most important after the *Zō-shi*); *Kaibō-zu*, an original series of anatomical tables based upon autopsies (dissections ?) done in 1774, was published in 1775 by Tōmon YAMAWAKI (1736–1782); *Kaitai sagen*, an introduction to dissection in one volume by Taijyun YUKI or Tajun YUZUKI (died 1803), appeared in 1789. (YUKI also performed further autopsies in 1797.) *Kaibō-zu* by Genshun KOISHI (1743–1808), an anatomical work in one volume, also appeared in 1789.

[33] In 1754 YAMAWAKI dissected the body of an executed criminal—reputedly the first human *dissection* in Japan—but for some unknown reason publication of that work was delayed until 1759. As a consequence of this there is some disagreement as to the date of the *Zō-shi*, and occasionally there are misprintings in the literature, but the weight of evidence favors the 9th year of Hōreki (= 1759). YAMAWAKI made another later dissection, but published no other book describing it. Prior to the pioneer work of Tōyō YAMAWAKI, Japanese knowledge of (human) anatomy had to be based upon dissections of animals (otters, dogs, and monkeys are mentioned) and from the imperfect illustrations in Chinese medical books (or copied in Japanese translations of them). It is probable, however, that human dissection was an earlier reality in Japan, as judged from occasional sporadic instances suggested in the literature, but no actual written record of such work is known to exist at the present time.

The famous Japanese interpreter for the Dutch, Ryōi MOTOKI (1628–1697), had copied Johi Remmelin's plates, a work which was later published (posthumously) in 1772 with the title *Oranda zenku naigai bungōzū* and depicted human anatomy on separate plates. It was, however, not considered particularly important in Japan. The anatomical work of Jean Palfyn, probably his *Heelkonstige ontleeding van's menschen lighaam* . . . (Leyden, 1718 or 1733), was translated into Japanese in 1857 as *Parfin kaibō zufu* by Hosaku SAITŌ; and a year later saw the posthumous publication of *Kaitai soku*, a textbook of anatomy in eight volumes by Ryōtei SHINGŪ (1787–1854), which was a translation of Joseph Jakob von Plenck's work (unidentified) on anatomy, surgery, gynecology, and pediatrics.

Baien MIURA (1723–1789), a noted Japanese physician and philosopher who was interested in anatomy, wrote a book *Zōbutsu yotan* published in 1781, based (in part) upon original drawings of the skeletal system which had been made in 1741 by Tōshuku NEGURO. NEGURO, an ophthalmologist and artist (whose son was also a physician), had studied skeletons of two prisoners executed by burning, but had restricted his drawings to the system of bones.[34] *Zōbutsu yotan* also included the work of Gōritsu ASADA (1734–1799), a great Japanese astronomer and anatomist, who had studied the anatomy of animals as well as of man. Reference is made to a work by Riken NAKAI entitled *Etu-so rōhitsu*, published in 1773, and considered by my friend, Dr. OGAWA, as the best book on anatomy before the *Kaitai shinsho*.

The most important single work among the Japanese (or Chinese) medical books which form the collection being described in this paper is the famous and now comparatively rare *Kaitai shinsho* composed by Gempaku SUGITA (1733–1817), one of the most famous of Japanese physicians (Plate III A), a work first published in 1774. This classic work[35] was a milestone in the history of medicine, and particularly of anatomy, in Japan, marking as it did the transition from the traditional Chinese medical teachings to the period when medical knowledge (anatomy) was to be based strictly upon human dissection and when anatomical inferences were to be confirmed "in the flesh," so to speak. *Kaitai shinsho* was the first Japanese translation (Plate III B) of a Western anatomical work, and was based principally upon the *Tabulae anatomicae* (Amsterdam, 1731) of Johan Adam Kulmus (or Kulm). On the threshold of a most fertile and productive period in Japanese medical writing, the *Kaitai shinsho* launched a long series of anatomical works, some of which have already been referred to above. Others will be described as we go along, and the reader

[34] These drawings have been reproduced from the original in a commentary entitled "Miura Baien no 'Zōbutsu yotan' nitsuite," written by Teizō OGAWA and published in the *Nihon Ishigaku Zasshi* in 1942.

[35] The publication of this work was also to cause an intellectual "renaissance" in Japan in all other fields, as well as in medicine.

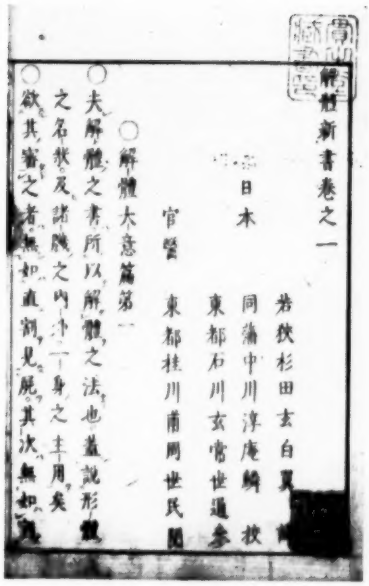
should remember that a nearly complete listing of early Japanese anatomies (as, indeed, is equally true of Japanese books in other medical disciplines) can be found scattered throughout Ruhräh's translation into English of FUJIKAWA'S short history of medicine in Japan. Apart from the fascinating story of its origin, the interest—for the non-Japanese reader—of the *Kaitai shinsho* (which means, literally "a new work in anatomy, i.e. dissection") lies in its atlas of engravings, which were done by the Japanese artist Eishō YOSHIO in 1773, who states that he "used a magnifying glass to 'see well' the original Dutch plates." This atlas (Plate III C)[36] forms the last volume of a five-volume work and has its own preface conceived (or dictated?)[37] by YOSHIO, but actually written by one Genrin TŌKŌ. The engravings cover surface anatomy; the skeletal system, with details of individual bones; gross appearance of the brain; the vascular supply and system of nerves; the organs of special sense; exposure of the thoracic, abdominal, and pelvic cavities; details of the viscera; the muscular system; and special drawings of the tendons of the hands and feet. It is of particular interest to note here the striking similarity of two of the engravings with comparable Vesalian figures: the thirteenth plate of the *Kaitai shinsho* corresponds to the third figure of the Vesalius-Calcar spinal nerve series, while the eighteenth plate of this Japanese work corresponds to the seventh "muscle man" of Vesalius-Calcar. The first four volumes of this work are of text only, starting out with the general meaning of anatomy, giving its purposes (which were stated as the examination of bones, nerves, blood vessels, internal organs, and muscles). Following this, the general idea of the three principal parts of the human body: stated as the head, the thorax and abdomen (together), and the pelvis and lower extremities (together). After presentation of each general description or concept, reference is made to the places in this work where more detailed descriptions can be found, and the remainder of the text is concerned with an elaboration of these details. The presentation of human anatomy in this work largely follows a systematic scheme. There was considerable difficulty with the translation of *Kaitai shinsho* from the original Dutch language, and the translator(s) tried to translate as accurately as possible, but sometimes the same Dutch word had to be used (in phonetic Japanese ideographs), and in a note by SUGITA he states that certain minor details of anatomical description were omitted. One of the

[36] Refer also to notation under footnote 8.

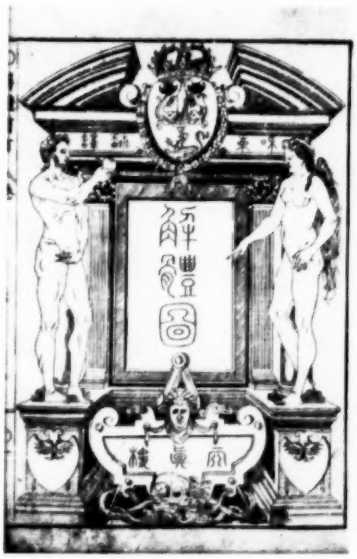
[37] At that time in Japan it was not uncommon for persons of note to have scribes to write for them; nevertheless, the scribes were permitted to "sign" their hankō—thus making such work more in the nature of co-authorship than a relationship somewhat analogous to our modern "ghost-writing."

PLATE III. A. Gempaku SUGITA (1733–1817). B. First leaf of original edition of the *Kaitai shinsho* (1774). Note stampings, which are ex-libris. C. Title leaf for *atlas* of the *Kaitai shinsho* (1774). D. Frontispiece leaf of *atlas* of the *Jūtei kaitai shinsho* (1826).

A



B



C

D

by-products of this work of translation was the composing of the *Rangaku kaitei*, described earlier in this paper. It has already been stated that the *Kaitai shinsho* was the Japanese translation of Kulmus' *Tabulae anatomicae*. In addition to that basic Dutch work, the following anatomical *texts* were also consulted:[38] *Caspar kaitai sho* (probably the *Theatrum anatomicum* . . . 1605 or 1620–21, of Caspar Bauhinus), owned by Hōgen (?) KATSURAGAWA; *Hesurinkisu* (?) *kaitai sho* (unidentified),[38a] copies of which were owned by Hōgen YAMAWAKI and Ryōtaku MAENO (1723–1803); *Parhain* (?) *kaitai sho* (probably the *Heelkonstige ontleeding van's menschen lighaam* . . . 1718 or 1733, of Jean Palfyn or his *Waare en zeer naauwkeurige beschrijving der beenderen van's menschen ligchaam* . . . 1758) and *Harushitosu* (?) *kaitai sho* (possibly the *De musculis diaphragmatis dissertatio anatomica*, 1733 or 1737, of Albrecht von Haller), both European works of which were owned by Junan NAKAGAWA; and *Misukeru* (?) *kaitai sho* (unidentified), owned by Genjō ISHIKAWA. Five anatomical *atlases* are referred to which were also consulted and compared with the *Tabulae anatomicae* before the *Kaitai shinsho* was composed. These anatomical atlases were: *Tommusu* (?) *kaitai sho* (unidentified) and *Brankaart kaitai sho* (probably the *De nieuw hervormde anatomie* . . . 1686, of "Stephanus Blankaart"), both owned by Hoshu KATSURAGAWA (1750–1809); *Caspar kaitai sho* (see above) and *Koiteru* (?) *kaitai sho* (probably the *Externarum et internarum principalium humani corporis partium tabulae* . . . 1573, of Volcher Coiter), both of these books owned by Gempaku SUGITA; and *Ambrose* (?) *geka sho kaitai hen* (probably referring to Ambroise Paré's *Chirurgie* . . . in Dutch translation by Battum, 1649), owned by Ryōtaku MAENO. Supported by all of this basic European anatomical writing, one of the concluding remarks of SUGITA in the *Kaitai shinsho* is particularly appealing: "If the reader cannot understand some parts, please come to me to make it sure while I am alive."

The *Kaitai shinsho* was completely rewritten by Gentaku or Bansui ŌTSUKI (1757–1827) and republished in 1812 under the title of *Jūtei* (*or Chōtei*) *kaitai shinsho*, a work in thirteen volumes of text. This was supplemented by an *atlas* volume which appeared in 1826 (Plate III D). The plates for this atlas were all re-engraved from the *Tabulae anatomicae* (1731) of Johan Adam Kulmus, to show greater detail than the engravings in the original edition of the

[38] In these citations the (?) simply indicates that there may be a variant spelling of the name or title, due to differences in "reading" of the Japanese characters. These anatomical works, whether of text or atlas plates, were *not* Japanese writings, but were European medical books. An attempt has been made to identify the original anatomical works consulted by SUGITA and his friends, in spite of the difficulties of "reading" and as remarked in footnote 30. The titles as given here are the Romaji equivalents of the Japanese characters as written by SUGITA, and should be used until the original works can be fully identified.

[38a] This has since been identified by Dr. Teizō OGAWA as the work of [Johann] Vesling, [his *Syntagma anatomicum*, probably the Dutch translation by Ger. Blaes, Leiden, 1661].

Kaitai shinsho; and additional figures were included, probably taken from Kulmus' *Ontleedkundige tafelen*... (Amsterdam, 1734). There is a noteworthy similarity between two of the skeletal plates in this atlas and certain of the traditional Vesalian figures in the First Book of the *De Humani Corporus Fabrica* (in Dutch translation, as remarked in footnote 8).

In 1805[39] Genshin or Shinsai UDAGAWA (1769–1834) published his *Ihan teikō*, which was a manual of anatomy in three volumes of text (Plate IV A), based on the works of Stephanus Blankaart (more correctly, Stephen Blancard), Jean Palfyn (or Palfin), and Jakob Benigus Winslow. Interestingly enough, *Ihan teikō* also includes lecture notes by a pupil of UDAGAWA, named Toshi or Shun SUWA. The sequence of anatomical structures elaborated in this text is as follows: brain, nerve, thoracic and abdominal viscera, arteries and veins, intestines, the mesentery (described as a "double film"), lymphatic vessels, urogenital system, peritoneum, retina of the eye, blood, skin, subcutaneous tissue and fat, muscles, ligaments, bone, and cartilage. There is also a description of the physiology of digestion. Reference was made to a mysterious liquid, called *reiki* (literally, "spirit water"), in connection with the function of the nerves; the belief being that this produced the clear liquids also found in the gall bladder, the pancreas, sweat glands, and in the composition of saliva, tears, etc., and was identified also with blood serum and lymph.[40] Containing no illustrations, the text has an advertisement at the end which states that an atlas for *Ihan teikō* will be issued later. This was done, and in 1808 appeared the remarkable *atlas* with the sub-title *Naishō dōhan-zu* containing, so the postscript by Kinchō or Ryūkei SUGITA states, the first copper-plate engravings ever made in Japan for such a subject. The engravings[41] were done by Denzen AŌDŌ, the most famous Japanese engraver in the Edo period, and were reputed to have been copied so carefully that if they are compared with the original Dutch engravings no differences can be detected. The title leaf, bearing a medallion portrait of Stephen Blancard above a scene showing him dissecting (Plate IV B), was done by one of AŌDŌ'S pupils, named Reikyō ARAI. The sequence of engraved plates is as follows: brain, in situ and removed; spinal cord and system of nerves; trachea, bronchial tree and lungs; heart and great vessels; vascular system; opening of the anterior abdominal wall to the greater omentum, showing the successive layers of skin, subcutaneous tissue, muscle and fascial coats, and peritoneum; dissection of

[39] Sometimes given, probably erroneously, as the 11th year of Kansei (= 1799).

[40] It should be remembered by the reader that in those days *internal* and *external* secretions were confused with each other. But it is tempting to interpret the Japanese description of this mechanism, however hazy, as a forerunner of our present-day concept of endocrine control, exerted on a body-wide basis through glandular secretions.

[41] The original engraved copper plates are now a National treasure of Japan, and are preserved in the National Museum in Ueno Park (Tōkyō).

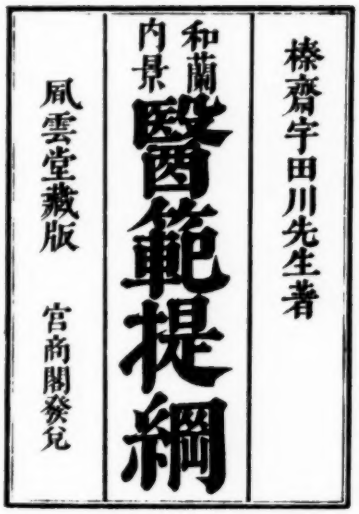
the M. gastrocnemius to show the structure of its fibres; superficial muscles of the anterior and posterior aspects of the body; and fetus and immature skeleton. Each of the engraved plates is accompanied by an explanatory text on the opposite leaf. A modern reprint edition of the anatomical atlas for *Ihan teikō* was issued in Japan in 1945, but the facsimile plates were, of course, very inferior to the original work. There are no titles or dates given for the original Dutch works, but they were probably the *De neiuw hervormde anatomie* . . . (Amsterdam, 1686) of Stephen Blancard; the *Heelkonstige ontleeding van's menschen lighaam* . . . (Leyden, 1718 or 1733) and/or the *Waare en zeer naauwkeurige beschrijving der beenderen van's menschen ligchaam* . . . (Amsterdam, 1758) of Jean Palfyn; and the *Exposition anatomique de la structure du corps humain*, in Dutch translation (Amsterdam, 1752) of Jakob Benignus Winslow.

In connection with the *Ihan teikō*, just described, it is interesting to note that a Japanese translation in manuscript, entitled *Blankaart naikeisho*, of Blancard's anatomical work also came into my possession. This is a copy in a precisely beautiful calligraphy, written about 1810 by an unknown person—but presumably a medical student.[42] This Japanese translation of Blancard's anatomical work was first offered to me in a quaint old bookshop on Morikawa in Tōkyō as having been originally written by someone named "Browncarrots," the only literally phonetic translation of the name which could be made from the Japanese characters.

A Japanese treatise on anatomy and anatomical dissection in five volumes was published in 1813 by Shōshū or Boku or Kōki MITANI (1774–1823) with the title *Kaitai hatsumō*. This was not the first original Japanese work on dissection, since priority in that respect had been established by the appearance in 1759 of the *Zō-shi* of Tōyō YAMAWAKI. But that earlier work was short and its illustrative material limited to a few crude drawings of the viscera. *Kaitai hatsumō* appears, however, to be the first Japanese exposition on the whole system of human anatomy, based upon original observation (including dissection) and knowledge of other anatomical works. An inserted advertisement for this book is translated to read as follows: "This book is *Kaitai hatsumō*,

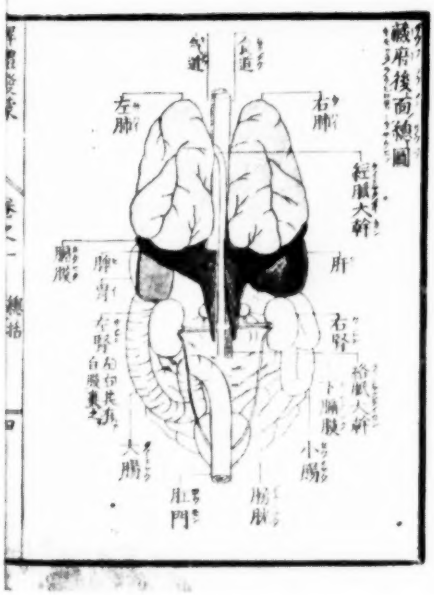
[42] It was not an uncommon habit in those days for students who were really interested in their studies to copy the books and manuscripts owned by their professors. For one thing printed books were scarce in Japan, and students could not always afford to buy the few copies that did exist.

PLATE IV. A. Title leaf of original edition of the *text* of the *Ihan teikō* (1805). B. Title leaf for engraved copper-plate *atlas* of the *Ihan teikō* (1808). C. A representative anatomical diagram from original edition of the *Kaitai hatsumō* (1813), showing posterior-anterior view of viscera. Note adrenal glands. D. Prescription for medicines, used in 759 A.D. Note official signature (hankō) of the Emperor Junnin.

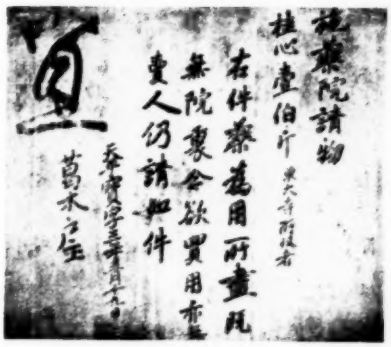


A

B



C



D

on some new Dutch theories[43] and moreover some dissections of a real dead body to make it sure. And it has become clear that the Dutch theories are right and the traditional Japanese and Chinese theories which [have been] with us for 3000 years [are] quite wrong." (Somehow one gets here the impression of a persistent reluctance to relinquish the traditional anatomical beliefs in favor of the European knowledge which had come into Japan. After all, the gross inaccuracies of the traditional teachings had been firmly established by the work of Gempaku SUGITA and his friends in the previous century.) Scattered throughout the text of *Kaitai hatsumō* is a series of anatomical plates printed in color. These drawings were very well executed, and illustrate the following structures: thoracic and abdominal viscera, in situ (Plate IV C); the lungs, with a careful dissection of the bronchial tree; the heart; the diaphragm; the spleen; the stomach; the liver and gall bladder; the kidneys,[44] with their blood supply, and the ureters; the urogenital system, in male and female, with the plexus of veins draining testes and ovaries; the uterus, with Fallopian tubes and ovaries (the ovaries are shown as contained *within* the uterine tubes); the urinary bladder in the male, with testes and accessory organs of reproduction (seminal vesicles, prostate), and penis; the small and large intestines, with the vermiform appendix; the blood supply to the intestine through the mesentery; the pancreas; a schematic diagram of the lymphatics (called "water-ducts") associated with the small intestine (the function of the lymphatics, it was believed, was to control blood volume of the body); the general vascular system of the entire body; the system of spinal nerves; and, finally, the gross appearance of the brain. The last volume of *Kaitai hatsumō* is in the form of an appendix, written by one of MITANI's pupils named Konsei MINAMOTO. This work was of sufficient historical importance to be entirely reprinted in a facsimile edition as recently as 1930.

The most important early Japanese work on osteology was probably con-

[43] The Dutch anatomical books whose "theories" were being examined by MITANI were not identified by him, but they are believed to be like those used in the composing of the *Kaitai shinsho*.

[44] In Plate IV C it is interesting to note the *adrenals* shown as circular (spherical) bodies, separate from the kidneys. This concept was not unique with the Japanese, however, since the adrenals had been so represented in, among other works, the *Institutiones anatomicae* . . . of Caspar Bartholinus the Elder (posthumous edition by his son, Thomas Bartholinus, Lugd. Bat., 1641), also in the *Anatomia ofte ontledinge des menschelijken lichaams* (Amsterdam, 1688) of Thomas Bartholinus, a copy of which was probably in use in Japan. Anatomically, the Japanese referred to the adrenals as the "small kidneys;" their physiological function was imperfectly understood, their endocrine significance then undreamed of. However, after the discovery of the active principle of the adrenal medulla by George Oliver and Edward Albert Sharpey-Schäfer in 1894, fate was to choose a Japanese-American scientist, Jōkichi TAKAMINE (1854–1922), to be the first (independently from the work of Thomas B. Aldrich) to isolate adrenalin in pure crystalline form, in 1901.

tained in an *atlas* entitled *Kakkotsu shinkeizu* published in 1810 by Bunken KAGAMI (1755–1819), to accompany his orthopedic work *Seikotsu shinsho* published at the same time (to be described in Part II of this paper in the section on surgery). *Kakkotsu shinkeizu* consists of a series of 33 finely-drawn osteological plates covering the entire body, which are referred to and described in *Seikotsu shinsho*. The illustrations in the *atlas* in the writer's collection are specially hand-colored, with a delicacy that brings into striking clarity the curved surfaces of the bones. It is interesting to note drawings of the bones of the hand and foot in the form of "exploded" diagrams, a technique of functional illustration used so effectively in present-day teaching methods. The writer has rarely seen osteological illustrations more accurately or more beautifully represented than those to be found in *Kakkotsu shinkeizu*. Unfortunately, the artist's name is unknown.

It has already been noted that there was a fairly large output of anatomical writing in Japan following the impetus given it by the publication of the *Kaitai shinsho*. Most of these translations, atlases, and the few original anatomical works are referred to in FUJIKAWA's history of medicine in Japan (see the German translation of 1911 or the English translations of 1925 and 1934). So far as the present collection is concerned, all of the *early* anatomies have been described. We jump now to the year 1872 when Kinya NAKA published his *Furesu kaibō zufu*, which was a Japanese translation in one text volume and one atlas volume of a work which had originally appeared in Holland about 1866, tentatively identified as *Handleiding tot de stelselmatige ontleedkunde van den mensch* (n.p., n.d.) by a comparatively obscure Dutch writer, Joseph Alexander Fles. The text of this Japanese translation is an explanation of the atlas plates. The most striking difference between the atlas of *Furesu kaibō zufu*, which contains a full array of engraved plates covering the entire human body, and the earlier anatomical atlases produced in Japan is a greater precision of gross detail in the figures and an emphasis on histological structures. *Furesu kaibō zufu* is probably a typical example of the state of knowledge of human anatomy known or accepted in Japan at the beginning of the Meiji period.

We have come a long way in tracing—through books—the Japanese concepts of human anatomy, from the mysticism and imagination inherited from the Chinese, to the threshold of physical reality due to the impress of Western (European) medical science, then through the transition from traditional belief by the gradual acceptance of gross anatomical truths copied from the works of other lands, and, finally, to the modern period in Japanese medicine. The first part of the 20th century witnessed the dominance in Japan of the anatomical teaching and writings of the German school. Continuing the pattern established through 150 years, all modern Japanese anatomical books have

been—with one exception—copies or translations, usually of Western works. The sole exception[44a] is the present-day *Jintai kaibō zufu*, an atlas of human anatomy published in five successive volumes from 1938 to the present, and the only *modern* Japanese anatomical work which is based upon original investigation and the dissection of Japanese cadavers. Various living Japanese experts are the authors, editors, compilers, dissectors, or illustrators for the separate volumes that comprise the *Jintai kaibō zufu*. Volume 1, subtitled *Kokkaku-kei*, is by Seihō NISHI (born 1885) and is on the skeletal system, with illustrations by Hajime ITŌ; it was first published in 1938. Volume 2 is subtitled *To-bu · Kankaku-ki*, and is by Tsunetarō FUJITA (born 1903) and Takeo WASANO, with explanatory notes by Seihō NISHI, and was first published in 1950. It is on the head and the organs of special sense. The color plates of dissections of the head were drawn by Hirosaburō HASHIMOTO. Yutaka ANDŌ was the artist for most of the plates on the sensory organs, and a few other plates were copied by Kiyomitsu WATANBE from original drawings by an unknown artist. Volume 3 is under preparation at the present time, but will consist of two parts. Part 1, on the neck, will be subtitled *Keibu*, to be written by Tadashi KATSUMATA, with illustrations by Hirosaburō HASHIMOTO. Part 2, on the thorax, will be subtitled *Kyōbu*, to be written by Tomo-o NAKAYAMA, with illustrations by Yutaka ANDŌ. Volume 4 was issued in two parts. Part 1, subtitled *Jōshi*, is on the upper extremity, and is by Michio NIIJIMA, with illustrations by Hirosaburō HASHIMOTO. Part 2, subtitled *Kashi*, is on the lower extremity. It was written by Shōji ARAI, with illustrations by Jun HONGŌ. Volume 5 is subtitled *Chūsū shinkei-kei*, the authors of which are Teizō OGAWA and Sakuzaemon KODAMA. It is on the central nervous system, with illustrations by Seikō WATANBE; it was first published in 1941. The general impression of this remarkable modern Japanese anatomical atlas is to remind the foreign "reader" of the plates in the well-known *Hand Atlas of Human Anatomy* by Werner Spalteholz. But, however similar in styling, the *Jintai kaibō zufu*, under the general editorship of Seihō NISHI, is completely Japanese in every respect (except that B.N.A. nomenclature is used, and printed in Romaji). As the outstanding anatomical atlas in use in present-day Japan, it will undoubtedly remain a potent influence in the teaching of this basic medical science for many years to come.

Completing the series of books on Japanese anatomy which came into my possession during a summer spent partly in haunting the old bookshops in Tōkyō and Nagoya is *Nihon kaibōgaku bunkensyū*, compiled by the Nihon Kaibō Gakkai (Japanese Anatomical Association) under the editorship of

[44a] It has been brought to my attention that *Jintai keitō kaibōgaku* by Buntaro SUZUKI, published 1918–1920, was also an exception, although it was ended incompletely by the death of SUZUKI. Three volumes were issued: volume 1 on osteology and syndesmology, volume 2 on myology, and volume 3 on splanchnology.

Seihō NISHI and Shuzabūrō MOCHIZUKI, and published in 1936. This book contains a complete bibliography of Japanese anatomical writings published from the year 1686 to the year 1933, and consists of 10,622 numbered entries, cross-classified by subject. No printed books on the history of anatomy in Japan are listed, but there are 28 references to papers of an historical nature, some of which include autopsies on famous Japanese persons.[45]

It may be of interest to note here that the last two books referred to were published in the so-called "Western-style" binding, whereas all other anatomies described in this paper were bound in the traditional Japanese-style. The Western-style binding, usually with hard covers, is now the rule in Japan, and there is also a definite trend toward printing the text in horizontal rather than in vertical lines, and for the book to be read from left to right rather than "in reverse." (Of course there are contemporary exceptions to any or all of these "rules.")

Physiology and Pharmacology

Apparently the first writing on the history of Japanese physiology was a study by Kenji OSAWA entitled *Hompō ni okeru seirigaku no hattatsu*, published (in reprint) in 1912. Later Japanese writings on the history of physiology in Japan are contained in *Nihon seirigakushi kōyō* by Koichi UCHIYAMA, published (in reprint) in 1927; and in *Nippon no igaku* by Masao ŌTA, published in 1946. Unfortunately, none of these books were "captured" by the writer while he was in Japan.

Edo-jidai no seirigaku, written by Koichi UCHIYAMA and Akira ISHIHARA, published (in reprint) in 1947–48, and already referred to in the section on anatomy, also outlines the history of physiology in Japan in the Edo period (1616–1867). Important physiological works referred to in that study are summarized in the following notations. *Naikwa senyō* by Genzui UDA-

[45] In the *Yū-riyaku-ki*, a History of the period (457–479 A.D.), it is related that a postmortem examination was made in the year 479 A.D. upon the body of a member of the royal house, the Princess Tata-hata, who committed suicide by drowning because she had been accused of unchastity. At the command of the Emperor her body was opened and only a sac was found, containing fluid and a stone—thus clearing her reputation. This account was noted in the *Tōkyō Iji Shinshi*, 1884, p. 887–90, and later cited by Whitney, Helmuth, and FUJIKAWA. Modern medical opinion is that this was probably a case of fibro-cystic uterine tumor with calcerous degeneration. Since this account—if it could be further authenticated—antedates the earliest records in the medical literature of the Western world, there is reason to believe that the first human *autopsy* may have been performed in Japan. The distinction between "autopsy (or postmortem)" and "dissection" is a fine one. Although dissection—the "cutting of the dead skin"—was specifically forbidden by the ancient classical writings of the Shintō religion as one of the "earth-offenses," it was not unknown in Japan. The word *kaibō* (to dissect) was first used in the *Rei-su*, the Japanese equivalent of a Chinese work *Ling-Ch'u*, in which it is stated that "after death the body shall be dissected and examined." The *Rei-su*, supposedly originally written about 150 B.C. (?), was in use in Japan in 553 A.D.

GAWA (1755–1797), published in 1793, a translation of the *Medicinae compendium* . . . (Lugd. Bat., 1731 or Venetiis, 1751) of Johannes de Gorter, which was the first Western book on *medicine* to be translated into Japanese.[46] According to FUJIKAWA, the first physiological work written in Japan—on physiology in the modern scientific sense—was *Igen sūyō* by Chōei TAKANO (1804–1850), published in 1836. This Japanese writing was derived from the Dutch translation by F. van der Breggen, *Grondbeginselen der natuurkunde van den mensch* (Amsterdam, 1835), of the work of Johann Friedrich Blumenbach, also from a Dutch translation by one "Ypma" (or Ypey ?), *Handbock der natuurkunde van den mensch* (n.p., n.d.), of the work of Theodorus Georgius Augustus Roose, and from a work originally written by an unidentified person named "Delahyje" . . . (in the Japanese text it merely says " . . . must be an 'anatomy' book of unknown title and date").

An interesting situation is presented by a work apparently written (published ?) in 1832 by Kōan OGATA (1810–1863), entitled variously as *Jinshin kyūri shōkai* or *Raisetsu jinshin kyūri* or possibly "read" in other ways. This writing was based on the *Handbock der natuurkunde van den mensch* of T. G. A. Roose, and on a Dutch translation by Adolphus Ypey, *Handleiding tot de phijsiologie* . . . (Amsterdam, 1809), of Roose's *Handbuch der Physiologie des Menschen*. There are at least four known versions[47] of the translation by Kōan OGATA: a copy in the collection of Wataru HIROSE dated 1861, one owned by Tomio OGATA dated 1862, and two different copies (or editions ?) of unknown dates in the collection of Koichi (?) UCHIYAMA. It is believed that the copy in HIROSE'S collection is "closest" to the *original* work as written by Kōan OGATA, and no copies of the original Japanese translation are known to exist at the present time. Incidentally, Kōan OGATA was also the author of the first Japanese work on general pathology, his *Byogaku tsūron* (1849), the first volume of which was entirely on physiology; this work will be remarked upon more fully in Part II of this paper.

In 1843 appeared *Fushi keikun ikun*, composed by Kōan OGATA (1810–1863) as a translation into Japanese of the *Enchiridion medicum* . . . ("Praxis") of Christoph Wilhelm Hufeland, from the Dutch translation by H. H. Hageman, *Enchiridion medicum. Handleiding tot de geneeskündige praktijk* . . . (Amsterdam, 1838). This was a very influential book in Japan. Two later Japanese translations of this same work were made by other persons: *Satsubyō kikan* by Kosei AOKI, published in 1857; and *Fushi-shindan* by Michimi (?) YAMAMOTO, published in 1858.

[46] *Shinko taigai* by Seiken TSUBOI, published in 1826, was the first Japanese work interpreting European diagnostic methods, especially recommending the use of the clinical thermometer (from FUJIKAWA).

[47] In olden days in Japan, after a book was written, if it was reprinted or "copied" certain changes were often incorporated in the reprinting or copying, accompanied by minor differences in the title. This explains the apparent dissimilarity in titles given above, which actually refer to the same original writing.

Iri-gaku gen written by Tadasuke or Chūsuke or Chūryō or Sodō HORIUCHI (1801–1854), Ryōan KUROKAWA and Kenzō AOKI, and published in 1844, was a translation of the work of Anthelme-Balthasar Richerand, taken from the Dutch translation by A. van Erpecum, *Nieuwe grondbeginselen der natuurkunde van den mensch* (Amsterdam, 1826). This European work was also translated into Japanese by Genkyō HIROSE (1821–1870) and published[48] in three or four volumes as his *Jinshin kyūri sho* in 1855 (first edition) and 1856 (second edition).

Genkyō HIROSE also translated the *Handleiding tot de phijsiologie* . . . (Amsterdam, 1809) of Adolphus Ypey in a three-volume work entitled *Chisei ron*, published in 1856. This was followed, in 1857, by another book of HIROSE's, his *Saii-myakkan* (on the physiological symptoms of disease), a translation of an unidentified European work on the subject. Genkyo HIROSE, who was a prolific writer, published a book on the philosophy of physics, biology, evolution, etc., in his *Tōkei-yoji* (n.d.), and also wrote on anatomy, on smallpox, and on geography. He studied in Tōkyō, where he also learned poetry and literature, but spent the remainder of his life in Kyoto; he even translated into Japanese a European book on military science, and made a cannon! (Genkyō HIROSE might well be considered as the Japanese counterpart of our own Benjamin Thompson, Count Rumford.)

Seiri hatsumō, written by Kinaye or Teiho SHIMAMURA and published in 14 volumes in 1866, was the translation of a work on general physiology by an unidentified Dutch writer named "Liback."

The *Zentai shinron* (1857), translated into Japanese from the original Chinese writing of the Englishman, Benjamin Hobson, has already been described earlier in this paper. That work was of significance in Japan, particularly for physiology and for urology.

Additional Japanese physiological writings, of unknown date (but which must have appeared during the middle third of the 19th century), were *Saisei sampō* by Bairi or Seikyō or Seikai SUGITA (1817–1859), which was a translation of Hufeland's *Enchiridion medicum* . . . ("Die drei Kardinalmittel der Heilkunst") and *I-kai* also by Bairi SUGITA, which was a translation of Hufeland's *Enchiridion medicum* . . . ("Die Verhältnisse des Arztes"). These two works, through their Japanese translations, were very influential in Japan. Also to be noted here were *Jinsei kyōgen* by Gempo MITSUKURI, which was another translation in one volume of Richerand's *Nouveaux élĕments de physiologie* (from the Dutch translation by A. van Erpecum, 1826), and *Seiri soku* by Ryōtei SHINGŪ (1787–1854), which was the Japanese translation of an unidentified work of Joseph Jakob von Plenck.

A useful chronology of physiology by Akira ISHIHARA appeared in 1952

[48] The original writing of HIROSE in this work of translation consisted of 30 volumes, but of these only three or four volumes were actually published (engraved or cut in wood "for printing many copies"). This was not uncommon in those days in Japan.

under the title *Seiri-gaku shi nempō*, a small hand-list in which the events and literature of physiology in Japan are woven into the historical development of physiology in the Western world, and correlated with social and cultural progress. Other recent works of physiological interest are *Nihon seirigaku bunken*, a bibliography of Japanese physiological writings, compiled by the Japanese Physiological Society and published in 1932, and *Kinsei seirigaku-shisōshiron* by Seizaburō URAMOTO, a Japanese-written history of physiological ideas in the Western world in recent years, published in 1935.

As in the case of the history of medicine in general, so there has been great interest in Japan in the developments in physiological science elsewhere in the world, especially in Western countries. Besides the book by URAMOTO, referred to above, Iwao FUJIOKA (died 1930) wrote *Kinsei seirigaku shiron*, first published posthumously in 1931 by Genji KURODA, a friend of FUJIOKA, with a second edition in 1932. This book consists of two sections, the first of which is an early history of Western physiology, and the second section presents an outline of the last 100 years of physiology. Unfortunately, there is no Japanese physiology in this book, which treats entirely of the Western world. It is illustrated with portraits of European physiologists.

For the benefit of the Japanese reader, John F. Fulton's short history of physiology in the Hoeber "Clio Medica" series was translated by Susumu HARASHIMA and published in 1933 as *Fulton seirigaku shisui*.

There is a good history of pharmacology in Japan, *Nippon yakugaku shi*, written by Tōtarō SHIMIZU (born 1886) and published in 1949. Several interesting illustrations enliven this book and make it somewhat more intelligible to the non-Japanese reader. The earliest references are to lists of medicines given to the Emperor in 756 A.D. (In olden times in Japan it was the custom to present anything new or "good" to the Emperor before it was provided for the general public.)[49] Careful directions were given for wrapping (i.e., packaging) medicines, the compounding and prescribing of which occupied a great part of the time of the early Japanese physician. Special mechanical devices were constructed for making pills. Later on, pharmacy shops took over much of this work, some of them becoming nationally famous.[50] Important early works referred to are: *Kempo shokunin zukushi utaawase*, by an unknown author, written in 1214: *Dōsan kirigami* (n.d.), by Dōsan MANASE (1507–

[49] The reigning emperor often had a close personal relationship to the health and welfare of his people. This was particularly true in the case of the Empress Komyo who established many hospitals—the most famous was called "Seyaku-in"—where the poor people could come for medicines. Plate IV D shows a prescription issued from that hospital to a pharmaceutical house, calling for more medicines to supply the needs of the indigent sick. (The Emperor Junnin had succeeded the Empress Komyo by 759 A.D., the year this particular prescription was used, and had continued that practice.)

[50] "Baiyaku no fukuro-shu"—a collection of (original) trade medicine bags—was another of the rare "finds" of the writer while he was in Tōkyō.

1595); *Honzō bengi* by Genri ENDŌ, published in 1681; *Jinrin kummō zui*, by an unknown author, published in 1690; *Yakuho kokoroegusa* by Yūnei ŌTA, published in 1876; *Shisen honzō komoku* (n.d.), which was a Japanese translation of a work by Anton Johannes Cornelis Geerts entitled *Les produits de la nature japonais et chinoise*, that had been published at Yokohama in 1878; *Kummō zui* (n.d.) by Ekisai NAKAMURA; and *Shichijūichi ban shokunin zukushi utaawase* (n.d.), by an unknown author. A work by Shinsai UDAGAWA (1769–1834) entitled *Ensei iho meibutsu kō* or *Shikyō ikoku meibutsu kō* (n.d.) was on materia medica, and introduced into Japan abstracts from the pharmacopoeias of Amsterdam (*Pharmacopoeia Amstelodamensis*, 1792), of Leyden (*Pharmacopoeia Leidensis*, 1751), and of Batavia (no reference). Governmental control over pharmacological practice in Japan began with the establishment in 1886 of the *Pharmacopoea japonica*. This history, *Nippon yakugaku shi*, concludes with a rather extensive bibliography of Japanese pharmacological works, and a chronology of pharmacology in Japan from 701 A.D. to 1949.

The first Japanese writing on materia medica was apparently a two-volume work entitled *Yakkei (or Yakkyo) taiso*, composed in the last half of the 8th century by Hiroyo WAKE. Based upon Chinese writings, it listed many medicines derived from plants, vegetables, insects, animals, and mineral sources, describing their properties and giving therapeutic uses. This was followed by the *Daidō ruijūhō*, or "Collection of recipes of the Daidō period," which had been compiled in 808 A.D. at the command of the Emperor Heizei or Heijo, who sought thereby to re-establish the authority of the "pure" Japanese medicine of an earlier age, based upon 'secret' prescriptions collected from ancient records. One of the compilers of this work was Hirosada IZUMO (died 870 A.D.); the other, not accurately identified, appears to have been named Masanawa ABE. The original writing of the *Daidō ruijūhō* has been lost,[51] and existing books of the same title are spurious copies written at a later date (one such manuscript copy is reported to be in the University of Pennsylvania Medical Library).

Honzō wamyō was a work in materia medica supposed to have been composed in the Engi period (901–922 A.D.) by Yasuyori TAMBA. Like many other early medical works in Japan, its origin is shrouded in some uncertainty. The title means, literally, "Japanese names for medicinal plants." It is known that Yasuyori TAMBA (912–995 A.D.),[52] one of the early great names in Japanese medicine, edited a work referred to as *Yasuyori honzō*. (Honzō = an herbal). It is probable that the original composing of the *Honzō wamyō* was as a compilation from earlier Chinese writings, describing medicines derived from minerals,

[51] The *Nihon kōki*, which does exist, contains a report to the Emperor on the *Daidō ruijūhō*.

[52] Who also composed, in 982 A.D., the 26-volume *Ishinhō*, consisting of abstracts of Chinese classic writings, embellished with his own observations and opinions—a work which is now the oldest existing medical book of Japan.

from plants, and from animals. Many "honzōs" have been written, but the *Honzō wamyō* is one of the most famous and there have been several successive copies or editions of it, rendered by different hands. The copy in the collection of the writer is a photographic facsimile edition of 1926, the original of which was a two-volume work published in 1796, edited by Sukehito FUKAE with a preface by Yasunaga or Genkan TAKI or TAMBA (?) (1755–1810). That rare copy was owned by Fumihiko ŌTSUKI, a famous Japanese man of letters. The introduction to the 1926 edition is a scholarly dissertation, written by Kan and Akiho YOSANO[53] with the help of Atsuo MASAMUNE, on the various editions of the *Honzō wamyō*. The work itself is in the form of a dictionary describing Japanese medicines derived from plants and minerals. The printed characters are Chinese, but not in a pure style; therefore one leaf gives the old Japanese alphabet, and this is followed by "reading" or an explanation for those who cannot understand the Chinese ideographs in the text, a section which is arranged to serve also as an index of medicines.

One of the classic Japanese medical writings was *Yakusen zokuhen*, by Shūan or Shūtoku KAGAWA (1683–1755), published in 1738. This publication is a curious instance of a book being "bibliographically lost," so to speak, since it was originally conceived as a supplement, forming the fourth volume of *Ippondō yakusen*, a Japanese treatise on pharmaceutical prescriptions published in 1731 by the same author, but it is actually a separate work in its own right. Only the first 16 leaves of *Yakusen zokuhen* are on the healing powers of hot springs, the major part of this book being concerned with describing the therapeutic effects of tobacco, tea, oils, grains, vegetables, plants, fish, nuts, birds, and animals.[54] There are no illustrations.

Genshin or Shinsai UDAGAWA (1769–1834), famous as the composer of the *Ihan teikō*, also made the first Japanese translation of European materia medica, in his *Waran* (*or Oranda*) *yakkyō* published in 1828. This was based upon the pharmacological writings of Adolphus Ypey, H. J. van Houte, J. Arnemann, and Christianus Ignatius Niewenhuis (another group of European physicians whose work was overlooked by Garrison).

In 1822 Yōan UDAGAWA (1798–1846) published *Botania-kyō*, a work on botany which appears to have been a translation of parts of an economic dictionary or encyclopaedia of French agricultural science originally compiled by Nöel Chomel, together with abstracts from other European writers. This was followed in 1834 by Yōan UDAGAWA'S *Shokugaku keigan*, important as the first Japanese writing on botany which was based principally on original study (although it does include some translated parts from an unidentified European work).

[53] A husband and wife team, also famous as poets, whose romance is a modern legend in Japan.

[54] In Japanese rural areas the horn of certain animals was ground or shaved to a powder, called ryūkakusan ("dragon-horn-powder"), and used to treat *every* kind of disease.

Drawing upon the wealth of European medical and scientific knowledge available to them, Japanese physicians also wrote the first works in Japan on physics and chemistry. *Kikai kanran* by Rinsō AOCHI, which appeared in 1827, was a translation of an unidentified European book on physics. AOCHI'S work was revised in 1851 by Kōmin KAWAMOTO (died 1871) and published, with the addition of sections on clinical medicine, physiology, and pathology, as his *Kikai kanran kōgi*. Genkyō HIROSE, whose acquaintance we have already made, wrote a four-volume book on physics in relation to medicine, published in 1854 with the title *Rigaku teiyō*; this was followed in 1859 with a supplementary work by HIROSE entitled *Rigaku teiyō kohen*. The first Japanese monograph on chemistry was the *Shamitsu* (*or Seimi or Shemi*) *kaisō*, published in 1837 by Yōan UDAGAWA (1798–1846). This was an introduction to chemistry, incorporating translations from *The elements of experimental chemistry* (edition unknown) of William Henry, and unidentified works of Plenck, Blumenbach, and Ypey, together with accounts of the personal experiences of UDAGAWA. *Shamitsu kaisō* includes a chemical analysis of the waters of hot springs in Japan. Also on chemistry were two undated books by Kōmin KAWAMOTO, his *Shemi shingen* and *Kwagaku tsu*.

As we have seen, especially in the physiologies, there was intense effort among the Japanese to copy the writings of European physicians and scientists (whose works had been brought into Japan mostly in the Dutch language or in Dutch translations). There were, for the most part, very few *original* Japanese writings, except for the authors' own observations on the subjects of the various translated works. The Japanese writings (translations) on physics and chemistry, referred to above, are credited by FUJIKAWA with forming the fundamental data for the progress of medical science which was to follow in Japan.

In "Records of the Divine Age" (a period prior to 660 B.C.) it is noted that monkeys were used in Japan to test the effects of various medicines. That period also witnessed the beginnings of anatomy and physiology, since it is stated in the ancient writings that "... the form of the bones in man and woman, and the position of the bowels and intestines are discussed...." From those early efforts to deduce the structure and function of the human body, attention has been called to the principal written works—manuscripts and printed books—which have marked the gradual development in Japan of knowledge in the basic medical sciences. Part II of this paper will continue this descriptive outline, with regard to various clinical specialties.

(To be continued.)

An Inexpensive Apparatus for Microfilm Reproductions

By Thomas Gibson, M.B., F.R.C.S.Ed.,
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Library of the Royal Faculty of Physicians and Surgeons of Glasgow

THE many uses of 35 mm. film reproductions of articles, books, documents, and manuscripts are too well known to need recounting. Much of the apparatus commercially produced for this purpose is, however, expensive and outside the means of many libraries which have not the turnover of such work to justify the capital outlay. For this reason, and having need of such a device, we designed and made one which cost very little, is simple to operate, can be used with any standard 35 mm. camera, and gives microfilm reproductions of professional standard. The maximum length of film obtainable in one piece is, of course, limited to the capacity of the 35 mm. camera which is 1 metre, but longer lengths may be obtained by splicing if required.

The construction is straightforward and within the scope of any home craftsman and may be of interest to other librarians.

Constructional Details. An over-all view of the apparatus is shown in Fig. 1. It consists essentially of a glass covered base incorporating a compensating table, a laterally placed lighting system and a stand to support the camera vertically above the base. The whole was constructed from scrap wood and metal, the only expensive item being the plate glass cover.

the base. This is a 4-sided box measuring 24 in. by 19 in. by 6 in., made of ⅞ inch thick wood with a hinged lid consisting of a sheet of plate glass in a rebated wooden frame. Along the top of the sides of the box and enclosing the lid runs a wooden strip ¾ in. thick and 1¼ in. broad which projects over the inside and serves to retain the table on which the material to be photographed rests. In order that the table will compensate for the varying thicknesses of an open book, it is divided centrally and each half is supported on springs. Some trial and error is necessary to obtain the correct degree of springing; this must be strong enough to ensure flattening of the book on closure of the lid but not so strong that there is danger of breaking the glass. We found that two 6-inch mattress springs on each side, placed along the longitudinal

FIG. 1. The completed apparatus with the plate glass cover raised. Two "Photoflood" bulbs are accommodated in the reflectors on each side.

axis of the box, served the purpose (Figs. 2 and 3). They will accommodate a maximum thickness of 4 in. on each side. The two halves of the table are made from plywood and small vertical wooden strips nailed centrally to the inside front and back of the box serve as guides and prevent the two halves fouling

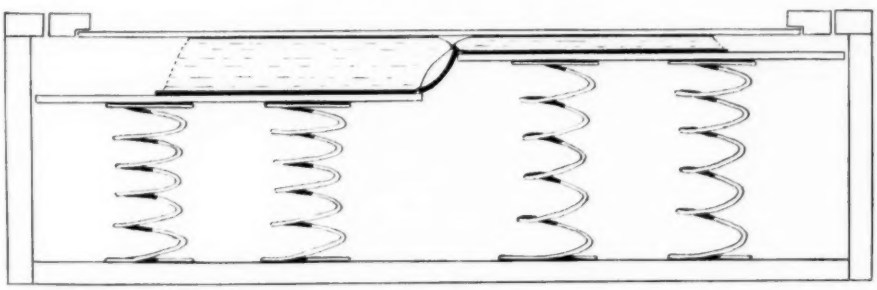

FIG. 2. Schematic section through the base of the apparatus to show the details of the compensating table. Two 6" mattress springs are used on each side.

FIG. 3. The apparatus in use showing how the individually sprung halves of the table compensate for the varying thicknesses of the volumes being photographed.

each other. A spring clip is attached to the camera stand to support the lid in an open position.

ILLUMINATION. In order to prevent light reflected from the glass from reaching the camera, the lights must be placed sufficiently far laterally to be *outwith* the line of reflection of the camera lens from the most lateral part of the glass

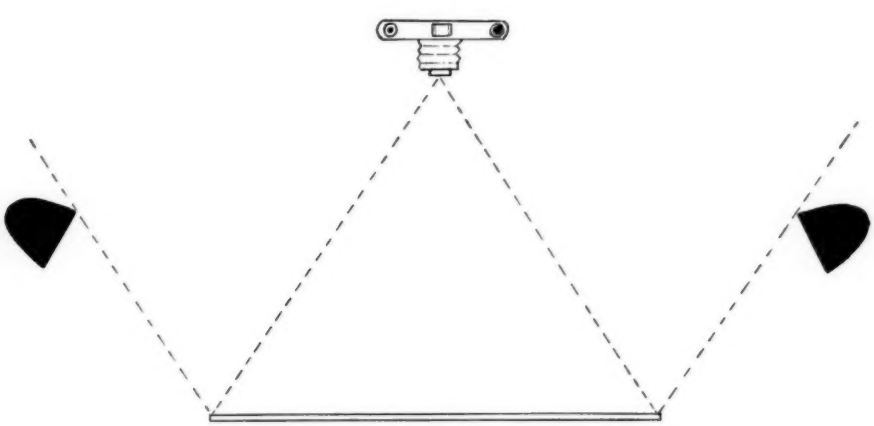

FIG. 4. The lights must be placed outwith the line of reflection of the camera lens from the most lateral part of the glass cover to avoid fogging of the film from reflected light.

cover (Fig. 4). They must also be as high as possible to give an even flat illumination of the base but not so high that the exposure time becomes inordinately long. We compromised with a height of 13 inches above the table, and with two "Photoflood" bulbs on each side the exposure on "Microfile" (Kodak) film is $\frac{1}{5}$ sec. at f.8. The lights themselves are partially enclosed in parabolic reflectors made from tinned sheet metal nailed around wooden formers at each end. The main axis of the reflectors is directed to a point about one third of the length from each end of the top but some individual adjustment is necessary to obtain a thoroughly flat illumination. A switch controlling the lights is built in to one end of the box.

THE CAMERA STAND. This is a rigidly strutted wooden support shaped like a gibbet to which the camera is attached by means of a thumb screw engaging in the opening designed for fixation to a tripod. Miniature cameras vary considerably not only in shape but in the situation of the tripod fixing screw, and the supporting bracket must be designed accordingly. It is almost impossible to avoid some vibration in such a wooden stand and a cable release for the camera is advisable.

ADAPTING THE CAMERA. The stand was designed in this case for a Zeiss "Ikon" camera with a 5 cm. lens, and the camera is held at a height of 24 in. above the table. This height was calculated so that the total field would just exceed that of the larger medical journals in common use, e.g., *J.A.M.A.* which measures when open $11\frac{1}{2}$ inches by 17 inches. An accessory lens was necessary to allow of focussing at this short distance and a $2\frac{1}{2}$ dioptre spectacle lens ground to fit a screw-on type of filter holder gave adequate resolution at apertures of f.8. and smaller. More complex lenses could be obtained for larger aperture working but the spectacle lens has the advantage of cheapness.

PRELIMINARY ADJUSTMENTS. It is not possible to preset the focus on calculation alone because of the compound nature of modern lenses. A rough focal setting was first obtained by placing a small ground glass screen in the film aperture and the final setting obtained by a series of test exposures. Final adjustments of the flatness of the lighting and the exposure were also made from a series of test strips. The limits of the camera field found in the same way were drawn on the surface of the table.

USING THE APPARATUS. "Microfile" film (Kodak) is made for the purpose and gives excellent results. It is not, however, a panchromatic film and when photographing old manuscripts, when both paper and ink are brownish in colour, a considerable increase in exposure time is necessary. With this exception however, once the preliminary adjustments have been made, no change in the settings is required.

For those who are not familiar with such apparatus it should be pointed out that successive pages should be photographed in reverse order commencing with the last and proceeding to the first. With the reversal of the photographic image the pages then appear in their natural order in the reader.

Old Wine in New Bottles—The Trend in Social Welfare Headings*

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PERTINENT up-to-date subject headings in a Library's catalog make the difference between a dynamic catalog and one which frustrates the patron and baffles the Reference Section. I have called my remarks "Old Wine in New Bottles—The Trend in Social Welfare Headings," for, while the concepts of social work are as old as recorded history, changing conditions have modified the terminology from era to era.

The concept of public welfare in its present day connotation has had a long and tortuous history. The responsibility of government for the relief of the needy, as we know it in the United States today, may be said to date from the English Statute of Laborers in 1349. Although extensive measures for the relief of poverty and destitution existed centuries before in Greece, Palestine, and Rome, the Statute of Laborers offers itself as the logical point of origin, if one is seeking a starting point for the development of public welfare as we envision it today in the United States. With it begins the chain of circumstances that leads to our present system. In the shift from feudalism to capitalistic democracy the emerging concept of social security was slowly conceived. Those people who would today be in the greatest economic stress, in feudal times were presumably protected by their masters. These serfs had protection against such problems as unemployment, sickness, and old age through the protection afforded them by their liege lords. By the middle of the fourteenth century feudalism was rapidly coming to an end, wages had come largely into use and had become a means of emancipation of the laborer from serfdom. With this advance in freedom came a loss in the economic security of having a master. To overcome this loss and obtain relief there were three avenues of organized help: the guilds, private foundations, and the Church. In 1572 a reformulation of the Poor Law was enacted marking the beginning in England of the legislation of taxes for relief. In 1597 the program was rewritten and clarified and the Poor Law reached the form which influenced the administration of relief for the next three hundred years. After two centuries of attempts

* Address given before "Workshop F," Council on Social Work Education, Washington, D. C., January 29, 1954.

to control poverty by repressive measures, government came to accept the responsibility for the help of people who could not protect themselves.

In England during the 19th century a new concept of governmental operation in relation to the care of the poor gradually came into being. Beginning with the Reform Bill of 1832 and extending through the Beveridge Plan and the National Insurance Act, these acts and a long succession of social reformers working to improve the social and economic conditions of the English people changed the very concept of government and put in its place a new theory based on the principle of governmental assistance in the interest of the well-being of the people, which led, in this country, to the enactment of the Social Security Act.

On August 9, 1935, the Congress passed the Social Security Act, which was signed by the President on August 14, establishing social security in the United States. The program has developed until, with the expected enactment of President Eisenhower's proposed social security program, 75,000,000 people will be covered in a program of joint cooperation of individual and state, in a vast endeavour to raise the level of living to something more than mere subsistence or cold charity.

With the passage of the Social Security Act, new terminology came into being: "Aid to dependent children," "Payroll taxes," "Wage records," "Old age and survivors insurance," "Covered employment," "Excluded employment." These were all new terms. The idea that persons in need had a right to assistance from the state, rather than dependence on private charity, found expression in Titles I, IV, V, and X of the Social Security Act, and such terms as "Public Assistance," "Aid to the needy blind," and "Aid to dependent children," became familiar words to social workers throughout the country. The need for new definitions and terminology to fit the scope and complexities of the issues involved soon became apparent. In 1936 the Social Security Board published "Preferred Terminology," a short guide to be used by members of the Social Security Board for approved language for public announcements. It is interesting to note what words were recommended for use, and what words were to be avoided. For example, the term "Aged" for "Old age," "Public assistance" instead of "Relief" or "Dole," "Assistance" instead of "Charity," "Aid to dependent children" instead of "Mothers' pensions." It will be seen from these examples that the trend of the Board's thinking turned away from the old concept of charity to the newer one of social security.

Once the constitutionality of the Act had been established, an educational program to inform the public of its rights and to interpret the various provisions of the Act was launched. A training program was developed to inform the personnel of the Board and, through them, the public, of the translation of social theory into action. This process involved the writing and distribution of millions of bits of informational material through all media of communication.

In a matter of months such terms as "Payroll taxes," "Experience rating," "Aid to dependent children," "Trust fund," "Covered employment," "Public assistance," "Old age assistance," became familiar words to the general public and to social workers, who not only had to struggle with the terminology but also had to put into practice the concepts involved in these terms. Since 1936 this terminology has become commonplace and Social Security has become an essential part of American economic life.

When the Social Security Act was passed in 1935, there was no definitive list of subject headings in the field of social welfare. The third edition of the Library of Congress *Subject Headings Used in the Dictionary Catalogues of the Library of Congress* was the primary source for most catalogers. This publication, dated 1928, naturally did not include the terminology which had been created by the passage of the Social Security Act. This left the librarians in a vacuum which they had to fill as fancy or the needs of their libraries dictated. The Special Libraries Association, recognizing this vacuum, almost at once initiated a project to draw up a list of subject headings in the field of social welfare. In 1935 a committee from the Social Sciences Group was appointed to develop the list; in 1937, the Special Libraries Association published *Social Welfare, a List of Subject Headings in Social Work and Public Welfare.* In its introduction the following statement was made:

> The vocabulary of social work has changed greatly in recent years. Early efforts to prevent poverty, disease and crime, confined mostly to reform movements and to poor relief, gradually have been superseded by the more scientific work of organized social welfare agencies. The passage of the Social Security Act and resulting state enactments have brought about far reaching developments in public welfare. Subject headings for handling books and pamphlets on social work and public welfare have not kept pace with these changing points of view. This compilation is offered to meet the need for a compact and comparatively up-to-date list devoted to the field of social work.

A cursory survey of this list will show the trend in thinking and terminology; as, for example, the following cross references, "Charitable agencies" *See* "Social agencies," "Charities" *See* "Family welfare," "Public welfare," "Child adjustment" *See* "Behavior problems." There appears in this list for the first time in any published list of subject headings such headings as: "Child guidance clinics," "Child welfare," "Foster care," "Chronically ill," "Collective bargaining," "Community councils," "Credit unions," "Dismissal wage," "Family allowances," "Migratory labor," "Maternal welfare," "Mental hygiene," "Public assistance," and "Public welfare." These headings show an awareness and grasp of the changing concept of the role of social welfare in the new climate of public opinion ushered in by the depression, and the resultant measures of the Federal Government.

In December 1940, the Social Security Board Library issued *Selected List of Subject Headings Used in the Social Security Board Library.* This list was compiled by Mary McGeorge, Jeannette Hagan, and this speaker. It was issued

to meet the needs of librarians who were struggling to cope with the new terminology introduced by the Social Security Act. We realized at once that we were embarking on uncharted seas and that an intensive study of the Act and its implications for the future would have to be made. Consultations were held with various specialists in the Social Security Board, and definitions and headings developed for the various programs embraced by the Act. The basic tool used was the Social Security Act itself and the subject headings were taken directly from the text of the Act in many instances; for example, the headings "Aid to dependent children," "Public assistance," "Payroll taxes," and "Federal old age and survivors insurance trust fund."

In order to make available the various provisions of the different titles of the Act, we developed subdivisions to be used under the main headings. For example, after study of the Old age assistance program, we showed the various administrative provisions of Title I under the subject heading "Old age assistance" by means of the following subdivisions: "Appeals," "Eligibility," "Finance," "Investigation and decision," "Legislation," "Payments," "Recipients," "Services," and "State plans." These and other subdivisions, plus cross references, enable the user of the catalog to locate with a minimum of effort the material on a particular aspect of the program.

No doubt the best known as well as the largest program of the Social Security Administration is the Old Age and Survivors Insurance System. This is a Federal program insuring covered workers against wage loss due to old age. It provides regular monthly payments to insured workers when they retire at age 65, supplementary payments to their aged wives or dependent husbands, and also survivor benefits to the widows and young children of insured workers who die. The benefits paid are directly related to the amount of wages earned by the insured worker and are financed from contributions required under the Federal Insurance Contributions Act. This program is administered by the Bureau of Old Age and Survivors Insurance which is located in Baltimore. Here are kept the wage records and account numbers of all insured workers. The size of this program is shown by the fact that at the beginning of 1953 an estimated 66,500,000 people were fully insured and it required 13,821 persons in the Bureau of Old Age and Survivors Insurance to administer this vast undertaking. While Public Assistance is a Federal-State program, that of Old Age and Survivors Insurance is wholly Federal. It is administered through Regional and Field Offices scattered throughout the country. These field offices answer thousands of questions relating to all phases of the Old Age and Survivors Program. It is in these field offices that claims for old age benefits are filed and that one can obtain his social security account card, which is the individual's proof that he is covered under the Act. Since Old Age and Survivors Insurance is such an important part of the Social Security program, great care had to be taken to develop subject headings for use in the catalog. Mary McGeorge,

Jeannette Hagan, and I studied the Social Security Act intensively. We decided to use as our main subjects, "Insurance, Old Age" and "Insurance, Survivors" and under these we would enter material dealing with Title II, Old Age and Survivors Insurance. We then drew up a list of subdivisions for the various aspects of these programs and submitted this list to specialists in the Bureau of Old Age and Survivors Insurance for suggestions on our form of entry. Conferences were held with heads of the different divisions in the Bureau to establish accurate and meaningful terms. We tried to create subdivisions broad enough to withstand the test of time, yet specific enough to delineate the various aspects of the two programs. The following are some of the subdivisions used under the heading "Insurance, Old Age:" "Administration," "Employee wage records," "Employer wage reports," "Excluded employment," "Finance," and "Taxation." As new programs are added we follow the same policy in developing additional subject headings. For example, when the new category in Public Assistance, "Aid to the permanently and totally disabled," was established, we used this term as a subject heading and, as the program expands, we plan to add pertinent subdivisions to bring out the different aspects of its administration.

Material dealing with Federal grants to the states in the field of health, education, and welfare is entered under the subject heading "Grants-in-aid." Through the State-Federal public assistance provisions of the Social Security Act, the Federal Government makes grants to the States to aid them in giving financial assistance to four groups of needy persons: the aged, blind, dependent children, and the permanently and totally disabled. The States adopt and administer their plans for the special types of public assistance under the Social Security Act, and the State plan must meet certain requirements set forth in the Act, if the State is to be eligible for Federal grants. The amount of the grant is based on the amount which the State itself expends for assistance payments. The Bureau of Public Assistance administers this Federal-State program, which operates through the State Public Welfare Departments and serves the people in a genuine "grass roots" approach, as its reaches into the local level through financial participation of the State itself. Public assistance is one of the Department's grant-in-aid programs; in June, 1953, 4,364,000 people were receiving assistance through their various State programs. As a result of great interest in the subject, the Library has issued a thirty-seven page bibliography entitled *Federal Grants-In-Aid in Health—Social Security—Education—Vocational Rehabilitation. Selected References, 1938–1951*, covering the Department's grant-in-aid programs.

One of the important social and economic problems of today is the growing number of aged persons. The aging of the population is creating a situation that must be met on many fronts. The nation as a whole is just becoming aware of what is happening, and programs and policies are being developed throughout

the country to deal with this condition. As the need for information develops, more and more publications are being issued. In order to deal with this material the subject "Aged" has been added to our catalog with the following subdivisions: "Bibliography," "Congresses," "Education," "Foster care," "Health services," "Hospitalization," "Institutional care," "Recreation," "Research," and "Study and teaching." The Library's bibliography, *Selected References in Aging, An Annotated Bibliography, 1952*, offers significant material on this subject.

Another area of interest to the Social Security Administration, which has important social and economic implications for the program, is that involving industrial pension and welfare plans. The labor unions have developed plans for additional benefits so that today many collective bargaining contracts include provisions for pensions and medical care plans. After much discussion on how to treat publications dealing with these subjects, it was decided to enter material on social benefits arrived at through collective bargaining, under the heading "Collective bargaining—Welfare plans."

In February, 1951, the Library issued a Supplement to the December 1940 *List of Subject Headings*. This supplement contained not only social welfare terms, but was broadened to include subject headings in the fields of education and rehabilitation. This was a result of the consolidation of the libraries of the Social Security Administration, Office of Education, and the Office of Vocational Rehabilitation. (The Federal Security Agency Library has now become the Department of Health, Education and Welfare Library.)

A planning committee of the Special Libraries Association under Mrs. Andree, Chairman of the Social Welfare Section of the Social Sciences Division, is now working on a revision of the 1937 list of subject headings. This list which will mirror the changing concepts of social work and include its new terminology, will undoubtedly be very useful to both social workers and librarians

Recent Books of Special Interest to the General Practitioner: A Second List

FOR the second year, fifty books have been selected by and for a general practitioner. (For the earlier list see BULLETIN, 41: 122–124, April 1953.) Again new editions of well-known textbooks are excluded; emphasis is put on 1953 imprints, on American publications, and on American authors. Whether this list is continued annually hereafter depends upon the desires of readers. Please send comments to the Editor.

ALLERGY

SHELDON, JOHN MCFARLAND and others. A manual of clinical allergy. Philadelphia, Saunders, 1953. 413 p. $8.50.

ANATOMY

FRIEDMAN, SYDNEY M. Visual anatomy, thorax and abdomen. Springfield, Ill., Thomas [1952] 203 p. $10.50.

BIOCHEMISTRY

KLENDSHOJ, NIELS C. Fundamentals of biochemistry in clinical medicine. Springfield, Ill., Thomas [c1953] 276 p. $7.75.

CANCER

GOLDMAN, LEONARD BLAINE. Fundamentals of clinical cancer; with emphasis on early diagnosis and treatment. New York, Grune, 1953. 312 p. $8.75.

CARDIOLOGY

GOLDWATER, LEONARD JOHN and others. Returning cardiacs to work; a guide for private physicians, prepared for the Committee on Cardiac-in-Industry of the American Heart Association. [New York] American Heart Assn., 1952. 22 p.

CIVIL DEFENSE

SEARS, THADDEUS PERCE. The physician in atomic defense; atomic principles, biologic reaction and organization for medical defense. Chicago, Year Book Publishers [c1953] 308 p. $6.00.

DERMATOLOGY

PASCHER, FRANCES, ed. Dermatology formulary, from the New York Skin and Cancer Unit, Service of Dermatology. Rev. New York, Hoeber, 1953. 150 p.

SWARTZ, JACOB HYAMS. Dermatology in general practice. Baltimore, Williams & Wilkins, 1953. 581 p. $11.00.

WALDBOTT, GEORGE L. Contact dermatitis. Springfield, Ill., Thomas [c1953] (American lecture series, no. 133. American lectures in dermatology) 218 p. $8.75.

ENDOCRINOLOGY

GORDAN, GILBERT S. & LISSER, HANS, eds. Endocrinology in clinical practice. Chicago, Year Book Pub. [c1953] 407 p. $10.50.

TOLSTOI, EDWARD. The practical management of diabetes. Springfield, Ill., Thomas [c1953] (American lecture series. Publication no. 199) 93 p. $3.25.

WILLIAMS, WALTER W. Sterility; the diagnostic survey of the infertile couple. Springfield, Mass., The Author, 1953. 351 p. $12.75.

GASTROENTEROLOGY

SMITH, LUCIAN ANDERSON & RIVERS, ANDREW B. Peptic ulcer; pain patterns, diagnosis and medical treatment. New York, Appleton-Century-Crofts [c1953] 576 p. $12.50.

GYNECOLOGY AND OBSTETRICS

BERNSTINE, JACOB BERNARD & RAKOFF, A. E. Vaginal infections, infestations, and discharges. New York, Blakiston [c1953] 433 p. $10.00.

LOWRIE, ROBERT JOHN, comp. Gynecology. Springfield, Ill., Thomas [c1952] Vol. 1. Diseases and minor surgery. $22.50.

LULL, CLIFFORD BELL & KIMBROUGH, ROBERT A., eds. Clinical obstetrics, by members of the Staff of the Pennsylvania Hospital. Philadelphia, Lippincott [c1953] 732 p. $10.00.

HISTORY AND BIOGRAPHY

ACKERKNECHT, ERWIN HEINZ. Rudolf Virchow: doctor, statesman, anthropologist. Madison, University of Wisconsin Press, 1953. 655 p. $25.00.

BAINTON, ROLAND HERBERT. Hunted heretic; the life and death of Michael Servetus, 1511–1553. Boston, Beacon Press [c1953] 270 p. $3.75.

JONES, ERNEST. The life and work of Sigmund Freud. New York, Basic Books [c1953] Vol. 1. The formative years and the great discoveries. 1856–1900. $6.75.

MEDICINE, GENERAL

CULLEN, STUART CHESTER & GROSS, E. G. Manual of medical emergencies. 2d ed. Chicago, Year Book Pub. [c1953] 278 p. $4.50.

CUTTING, WINDSOR C., ed. Annual review of medicine. Stanford, Calif., Annual Reviews, 1953. Vol. 4. $6.00.

GREENBLATT, ROBERT BENJAMIN and others. Management of chancroid, granuloma inguinale, lymphogranuloma venereum in general practice. Washington, Govt. Print. Off., 1953. 66 p. (U. S. Public Health Service, Bureau of State Services, Div. of Venereal Disease, 1953. Publication no. 255)

SMOLLAR, LEO & MORGAN, NEIL. Know your doctor. Boston, Little, Brown [1953] 173 p. $3.00.

NEUROLOGY

WARTENBERG, ROBERT. Diagnostic tests in neurology; a selection for office use. Chicago, Year Book Pub. [c1953] 228 p. $4.50.

OPHTHALMOLOGY

HAESSLER, FERDINAND HERBERT. Primer of ophthalmology. Baltimore, Williams & Wilkins, 1953. 149 p. $3.00.

HUGHES, WILLIAM F. Office management of ocular diseases. Chicago, Year Book Pub. [1953] 452 p. $10.00.

ORTHOPEDICS

CASAGRANDE, PETER A. & FROST, HAROLD M. Fundamentals of clinical orthopedics. New York, Grune, 1953. 582 p. $18.50.

WILLIS, THEODORE A. Man's back. Springfield, Ill., Thomas [c1953] 161 p. $9.50.

PREVENTIVE MEDICINE

LEAVELL, HUGH RODMAN & CLARK, E. GURNEY. Textbook of preventive medicine. New York, McGraw-Hill, 1953. 629 p. $8.00.

PSYCHIATRY

BAKWIN, HARRY & BAKWIN, RUTH MORRIS. Clinical management of behavior disorders in children. Philadelphia, Saunders, 1953. 495 p. $10.00.

BENDER, LAURETTA, ed. Aggression, hostility and anxiety in children. Springfield, Thomas [1953] 184 p. $5.50.

MOENCH, LOUIS G. Office psychiatry; the management of the emotionally and mentally disturbed patient. Chicago, Year Book Pub. [1952] 310 p. $6.00.

REDLICH, FRITZ, comp. The inside story; Text written by June Bingham with the collaboration of Jacob Levine; comp. under the direction of Fritz Redlich. New York, Knopf, 1953. 280 p. $3.75.

WOLFF, HAROLD GEORGE. Stress and disease. Springfield, Ill., Thomas [c1953] (American lecture series, no. 166. American lectures in physiology) 199 p. $5.50.

SURGERY

DUNPHY, JOHN ENGLEBERT & BOTSFORD, THOMAS W. Physical examination of the surgical patient. Philadelphia, Saunders, 1953. 326 p. illus. $7.50.

FICARRA, BERNARD JOSEPH. Emergency surgery. Philadelphia, Davis, 1953. 1000 p. $18.00.

REQUARTH, WILLIAM. Diagnosis of acute abdominal pain. Chicago, Year Book Pub. [c1953] 243 p. $5.00.

WOMACK, NATHAN A. and others, comps. On burns. Springfield, Ill., Thomas [c1953] (American lecture series, no. 165. American lectures in surgery) 179 p. $5.50.

THERAPEUTICS

BENSLEY, E. H. & JORON, G. E. Handbook of treatment of acute poisoning. Montreal, Renouf, 1953. 201 p. $2.50.

Cornell Conferences on Therapy. Vol. VI. Ed. by Harry Gold and others. New York, Macmillan, 1953. 287 p. $4.40.

SMITH, AUSTIN EDWARD & WERMER, PAUL L., eds. Modern treatment; a guide for general practice, by fifty-three authors. New York, Hoeber [c1953] 1146 p. $20.00.

UROLOGY

DAVIS, DAVID MELVIN. Mechanisms of urologic disease. Philadelphia, Saunders, 1953. 156 p. $4.50.

Medical Library Facilities in the Madras State

A historical note, with a reference to the All-India Medical Institute Library

A. NEELAMEGHAN, *Librarian**

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Madras, India

INDIA'S MEDICAL TRADITION

INDIA'S medical tradition can be traced back to the third millenium B.C. The works of Caraca, Susruta, and Vagbhatta are well known medical classics. There is evidence in the rock edicts, inscriptions, and historical records to show that ancient India was not lacking in an organized medical service and that the profession itself, based as it was on sound ethical principles, was held in high esteem. History gives proof also to the great enthusiasm shown and provision made by some of the Indian kings and rulers for an extensive system of medical relief for man and for animal. With the advent of Europeans into India in the 15th century and more particularly the British at a later stage, the western system of medicine came to be implanted on the Indian soil. Since then, for obvious reasons, the practice of, and training in, this new system has been progressively adopted, although the indigenous methods still have their sway over India's millions of villagers.

TEACHING AND TRAINING

Writing was introduced into India in the 9th or 8th century B.C. The early alphabets were evolved to facilitate commercial contacts with the outside world. Before the days of manuscripts and printing, communication was principally by word of mouth, and teaching based on the Guru-Syshya (Teacher-Disciple) system. The disciples learnt whatever was taught to them by their Gurus, in our case the great Vaids, who were virtually walking encyclopaedias and speaking dictionaries. This system had its merits as well as disadvantages. As a means of recording and transmitting exact information for posterity, it was inadequate. When the number of those taught increased, different grades of intelligence and capacity had to be dealt with and the

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method of instruction proved inexpedient. As years went by, the subject matter originally taught must have been greatly modified by omissions and commissions. Actually, at a certain period, out of fear and envy, knowledge became confined to a select few who kept the "secrets" to themselves; and with this a certain amount of learning was lost. We do have an abundance of medical folklore and a good many quacks who profess to know all about the early remedies. But, for a thorough study of the ancient systems much chaff has to be separated to discover the grain.

Since there existed no manuscripts, books, or the like, we cannot think of libraries, except perhaps that a gathering of the great scholars could be compared to a temporary "collection" of reference sources. Whatever knowledge we have of the ancients, we have gleaned from palm leaf manuscripts, inscriptions on metal plates, rocks, and such, all of which might have had a parallel growth.

The Coming of Printed Material

The invention of printing by movable types in the 15th century was indeed a milestone in man's cultural evolution. Recording and communication of knowledge was facilitated, learning became widespread, and methods of teaching changed. Printed books trickled into India and very soon they successfully and abundantly replaced early forms of recorded thought.

Medical Training in South India

A review of the growth of medical libraries in Madras State must necessarily be preceded by a review of the history of the institutions for teaching and training in the medical sciences and this must, in turn, be preceded by a review of the growth and acceptance of western medicine, and more specifically, the establishment and growth of the Madras Government General Hospital.

The British landed in Madras some three centuries ago. The story of modern medicine in Madras begins almost simultaneously with the establishment of the Hospital by the East India Company "to safeguard the health and lives of their employees," although there were already in existence a few European-type hospitals established by the Portuguese. Sir Edward Winter, Agent of the Company (about 1664), gave the impetus for the development of institutions, such as a chapel, hospital, and library. Established about 1665, the Hospital has since then been extended, demolished, reconstructed, shifted, and modernized. From small beginnings the institution has extended considerably in many aspects, organized new departments affording facilities for training and research in various branches of medicine.

In regard to training for medical service prior to 1835, the year in which the Madras Medical School was established, Dr. Subba Reddy writes, "... candidates were reported qualified after a preliminary attendance in the

Hospital. In short the course was a practical one, limited to the observing of the practice of the hospitals. There were no classes. There was no systematic teaching of chemistry or physiology, materia medica or pathology." One of the text books used was Fife's *Anatomy* and when the medical school was started, Dr. Mortimer (of the Hospital staff) framed the first manual of anatomy.

The Madras Medical School and its Library

The Madras Medical School was opened in 1835 by the Rt. Hon. Sir Frederick Adams, the then Governor of Madras. The school was established with the purpose of "affording better means of instruction in Medicine and Surgery to the Indo-British and native youths entering the medical branch of the service under this Presidency." On October 1, 1850, the school was designated a College. With the affiliation of the College to the Madras University in 1863, a start was made in systematic teaching and awarding of medical degrees and diplomas. The history of the medical libraries in Madras State and South India was for a long time the history of the library of the Madras Medical College.

Even as the Medical School was planned in 1836, provision was made for a library in the buildings. Gifts of physicians and others and books transferred from the Hospital, Government departments, and other locations must have formed the nucleus of the original stock of the library. It is also probable that a portion of the library of the Company's hospital in the Fort or the Library of the Fort St. George, Madras, was added to the medical school collection. In 1847 when the five-year medical course was instituted, a small students' library was formed. Through purchase and gift the collection grew. In 1867 there were about 3000 volumes. "In 1871, the Madras Medical Society handed over to the college, *en masse*, its valuable collection of scientific books, together with a sum of Rs.1500,[1] and the annual interest accruing on it was to be spent on the upkeep of the library. . . ." By 1865 the collection had grown to over 7000 volumes. With limited finances and none-too-well-planned acquisition procedures until very recently, the collection did not increase rapidly. In 1951 there were a little over 20,000 volumes in the collection, excluding pamphlets and similar material; about 150 periodicals were subscribed for.

At this point, note should be made of other sources of medical information in the Madras State.

The Stanley Medical College Library

The College, a government managed institution, was started as a medical school in 1903, and in 1933 a five-year course was inaugurated by the Rt. Hon. Sir George Frederick Stanley and Lady Stanley. Its library was established in

[1] 1 dollar = 4.65 rupees (approx.)

1938 to meet the needs of the staff and students; this has at the present a collection numbering about 15,000 volumes with some one hundred periodicals in the field of medicine currently received.

Andhra Medical College, Vizagapatam

Another institution was started by the Government of Madras in 1923 in response to the wishes of the people of the Telugu districts of Madras. It is affiliated with the Andhra University, unlike the two colleges already mentioned which are affiliated with Madras University. The library collection contains about 12,000 volumes and over 125 medical journals are being subscribed for. Microfilm facilities are also available.

Christian Medical College, Vellore

Missionary medical work for women and children had its beginning in Vellore as early as 1900; soon after, in 1902, a Hospital was founded. In 1914 a Committee considered a proposal for the establishment of a medical school for women in South India and soon after the Christian Medical College came into being. Since 1923 several new departments have been opened. A library opened in 1942 has at present a collection of over 7000 select titles and a fairly good run of medical periodicals.

King Institute of Preventive Medicine, Guindy, Madras

The King Institute of Preventive Medicine was founded as a provincial Public Health Laboratory for the Madras Presidency in 1903. Its principal activities include bacteriological, serological, and pathological examination of specimens; manufacture and distribution of bacterial vaccines, therapeutic sera, and vaccine lymph; public health laboratory work, the examination of food stuffs, and similar analytical work; maintenance of a blood bank; and advisory work on these matters. Research on cholera, typhoid, leprosy, plague, malaria, and virus diseases has been carried on. Regular courses of instruction are offered for those studying for the Bachelor of Sanitary Science degree, the diploma in laboratory science, or sanitary inspection. With such a wide variety of functions and scope for research, the need for an adequate library service must have been felt even from the very inception of the Institution. In the *Indian Medical Review* (1938), Bradfield writes: "The Institute possesses a good library, the books and periodicals in which are well chosen for the type of work undertaken namely, medicine, public health, bacteriology, parasitology, immunology, analytical chemistry etc. The library is in charge of a trained librarian."

Nutrition Research Laboratories, Coonoor

Robert McCarrison began his researches on goitre and cretinism in Kasauli, Punjab, in 1913 and continued them in Coonoor after World War I until 1920

when he was invalided home. He resumed work in Oxford in 1921–22 and then again in Coonoor on deficiency diseases at the Pasteur Institute of Southern India (q.v.). Later, in 1923 his Inquiry was abandoned on the recommendations of a Committee, but in 1925 the Coonoor Inquiry was re-established as the Nutrition Research Laboratories. Since then, the institutional staff and other workers on various Inquiries have done much research work and published a number of papers in the field of nutrition and nutritional diseases. The Laboratories have built up a small library of select material on the subjects of their interest and receive an adequate number of periodical publications. They also share the library facilities of the Pasteur Institute housed in the same building.

Pasteur Institute of Southern India, Coonoor

Created out of the generous donation of Mr. Henry Phipps of the United States of America, the Pasteur Institute of Southern India was opened in Coonoor for the reception of patients in April 1907. Although its chief work centers round the treatment of and research on rabies, an appreciable amount of clinical and bacteriological examination of specimens is being carried on in the diagnostic laboratories. Papers published by the Institute's research workers include those on malaria, filariasis, blood diseases, and other diseases. In 1950 a W.H.O. center for research in influenza was established at the Institute. In spite of limited financial resources the Institute from its inception in 1907 has collected literature on laboratory and diagnostic work and also on the subjects in which research has been carried on from time to time, including a fair supply of the most useful journals and a good run of many of these.

The Madras University Library

Although the Madras University Library is not a purely medical library, its fine collection of reference books, serials, reports, and pamphlets has always been a good source of reference to those engaged in research in the medical and biological sciences.

District Medical Lending Libraries

With the decentralization of medical service in the State, a number of District headquarters hospitals were organized. These hospitals, under the jurisdiction of the Director of Medical Services, are responsible for medical relief in the several districts. From sheer necessity in keeping the medical officers of the hospital service abreast of the advances in the field of medicine and in having at hand the essential reference works, small library collections were built up in the hospitals. These subscribe to some of the most used journals, such as the *Lancet*, *Journal of the American Medical Association*, *British Medical Journal*, *Practitioner*. In a certain area a particular type of disease, for example, malaria, leprosy, eye diseases, or typhus, may be predominant. Naturally, in the areas

these interests will be reflected in the book collection at its Headquarters hospital. The libraries are strictly for the use of the hospital staff.

Inadequacy of Medical Library Service

In the beginning when the collections were small, management and service in the medical libraries noted above were quite simple, and normally the over-all supervision was entrusted to one of the senior doctors on the staff. A clerk issued books and tracked down those issued. Budgets were extremely limited and the acquisition policy was rather haphazard. With the introduction of new courses of instruction, the establishment of the new departments for training and research, the institution of postgraduate degrees and diplomas, and above all the tremendous advances which have been an almost baffling feature in the field of medicine and allied sciences in the last few decades, better facilities for keeping abreast and probing into the widening field of medical literature became a necessity to all those interested in medicine and the medical profession. Existing collections, meagre annual acquisitions, and haphazard service proved inadequate. Year after year, more and more scholars went overseas for advanced studies or specialization and when they returned they felt that the medical library facilities at home were poor in comparison to the standards in other countries. In short, medical education and the provision of research facilities far outgrew library facilities. This disparity and handicap became glaring in the last decade, and it was evident that unless immediate and drastic action was taken to improve medical library service in the country, training and research would be crippled.

Recent History

The McDonald Report

In 1945, under orders of the Director of Indian Medical Service, Lt. Col. D. P. McDonald undertook to examine the medical library facilities available in India. He visited many research institutions and medical colleges. In his report he pointed out that of the libraries visited practically none had a qualified librarian, and that the grants allotted for expenditure on libraries were inadequate. He recommended the provision of additional grants sufficient to procure books and periodicals necessary to meet the needs of the curriculum and research; he insisted upon the cataloging of the collections in each of the libraries and the filling in of gaps in the periodical sets (especially for the war years), obtaining microfilm copies wherever original copies of journals were not available. He recommended the provision of microfilm readers for future microfilm service when it would materialize. Concerning old and rare volumes he remarked: "Bequest collections of old and valuable books may be found neglected and uncared for. If a medical man conversant with medical literature could be deputed to survey these libraries, any valuable books such as old

editions could be placed in safe custody and others of no particular value could be disposed of."

This was, perhaps, the first official attempt in recent years to evaluate the medical library facilities in India. The then Surgeon-General with the Government of Madras called for reports and suggestions from the Principals of the Government medical colleges and the Director of King Institute (also under government control) on the available facilities and services in their respective institutions, including staff, collections, finance, etc., and what would be required for extending them. Owing to financial stringency, however, the reorganization was not taken up at that time.

Report of the Bhore Committee (1946)

In October 1942 the Government of India appointed a Health Survey and Development Committee under the Chairmanship of Sir Joseph Bhore to make a survey of existing health conditions, medical education, and allied matters in India, and to formulate plans for better medical relief and training. The Committee's Report in four volumes popularly known as the Bhore Committee Report was published in 1946. Among other things relating to medical education and research the committee examined the library facilities available in the medical institutions in the sub-continent. Lt. Col. McDonald's report served as background, and in order to study things first hand, the committee visited many of the medical colleges and research institutions. The Report is a valuable record of the then existing situations on the subjects of its enquiry. It is also important for its suggestions for effecting improvement in these matters.

As regards libraries the following observation of the Committee sums up the situation then obtained: (v. 1, p. 162)

> In many colleges the library facilities available are not adequate either for the students or for the staff and the annual allotment for this purpose is far from sufficient in many institutions. No clear cut distinction is made between the library facilities available for the students and those for the staff. The number of periodicals provided for members of the teaching staff is small and insufficient in certain colleges. We believe that a large outlay will be required in all institutions on the development of libraries in order to enable teachers to keep abreast of advancing knowledge and to provide facilities for research. None of the medical colleges at present possesses a trained librarian with suitable assistants who are capable of preparing a proper index and of translating articles from foreign periodicals.

Again on page 135 of volume 3 (appendix 28: Memorandum on the training of "The Basic Doctor" and some problems to medical education), the following suggestions are made for the provision of quick reference facilities for the hospital staff and interns:

> *Library:* 1. A separate, suitable reading room in the building should be provided for the use of the medical staff and the interns. A librarian or library clerk should be appointed to look after the issue and care of books and journals.
>
> 2. An annual grant of Rs.1000 should be allocated for books and periodicals (i.e. excluding salaries of staff, cost of furniture, etc.) and of this amount at least Rs.500 be spent on current

medical periodicals (foreign and Indian journals). The balance to be spent on reference books, monographs and annual reviews.

3. It is essential that all journals should be bound at the end of the year and kept for reference.

4. An initial expenditure of about Rs.5000 for reference books, etc., and perhaps including a microfilm reader would be a desirable addition.

5. The above suggestions relate to a hospital with 100 beds. For bigger hospitals with larger staff and facilities for training a larger number of interns a correspondingly larger expenditure on library facilities would be desirable.

The chief points raised by these observations of the Committee were that (1) the then existing library facilities in the medical colleges were inadequate and that in the hospitals such service particularly meant for the staff and interns was practically non-existent; (2) the expenditure on the library was insufficient, resulting in grave deficiency of stock of books, periodicals, etc.; and (3) practically none of the medical college libraries was managed by a qualified librarian. To redeem the situation the Committee suggested a large initial outlay to fill gaps in the basic stock, larger annual grants for acquiring at least the best of the medical literature published year after year and for subscribing to a larger number of periodicals, and that each library should be managed by a qualified librarian with trained assistants.

It can be said without fear of contradiction that the observations of the Committee were correct and the suggestions apt and basic to meet the situation. As a sort of concluding remark the Committee referred to the institution of an All-India Medical Library service adequate for the requirements of India, but of this we shall see a little later.

Acting on the above observations of the Committee, the Surgeon-General with the Government of Madras again called for detailed statements and suggestions from the medical colleges and King Institute. However, once again, the implementation of the scheme of reorganization was deferred for some reason or other.

Medical Education Committee Report (1947)

In 1947 the Medical Education Committee of the Madras Medical and Public Health Conference in its deliberations considered the question of medical library facilities in the State. Its report is of particular interest for its progressive outlook on library matters and also in that it did not confine itself to medical colleges but viewed the problem from the point of availability of information to the entire group of medical practitioners in the State. The report runs thus:

III Medical Libraries.—We consider that this question must be considered in its wider aspect and not confined only to Medical College libraries. The easy availability of current medical journals and publications will be a boon to all medical men and we feel that facilities for access to medical publications should be provided through government agency not only in the city but also in the muffassal, to all doctors, whether they may be in government service or not. There should, for that purpose, be established a small library with a reading room attached, to each District Headquarters Hospital, containing medical books and medical journals, commonly in use by all medical practitioners. The library and reading room should be accessible, free of any charge, for reference purposes to the hospital staff and to all registered

medical practitioners of the district. Publications may be taken away on loan by them only if they become members on payment of an annual subscription fee of Rs.5 and a deposit of Rs.30. Current editions of journals should not be loaned singly but should always be available in the library for reference till the new issue arrived. When this happened, the old issues should be bound together in volumes at suitable intervals and only these bound volumes be given to members for removal on loan.

In addition to this chain of district libraries there should also be a library in the office of the Surgeon-General, Madras, which would stock books and publications on such subjects which are not represented in the medical colleges and district libraries. Such subjects, for example, would be Medical Administration, Medical Education, Medical Philosophy, the History of Medicine, Hospital Construction and Management, etc.

We understand that there is no properly qualified staff in the medical college libraries, though the cost of books in them run to several lakhs of rupees. We recommend very strongly that at least in the Surgeon-General's Office and the medical college libraries, there should be separate full-timed trained and qualified librarians.

In view of the increased cost of publications and the need to equip these libraries with all the necessary journals, etc., the grants allowed for the existing medical college libraries should be substantially increased and adequate grants sanctioned for the Surgeon-General's office library and the district libraries.

Similar ideas were expressed by Dr. Subba Reddy in 1949 in writing about the old and rare books of the Madras Medical College Library.

The cumulative effect of the several statements and suggestions mentioned above was that it finally convinced the authorities that immediate drastic action was called for. Based on the statements and suggestions of the Principals of Madras, Stanley, and Andhra Medical colleges, and the Director, King Institute, the Surgeon-General (now the Director of Medical Service, Madras) sent his proposals for reorganization of medical libraries under government control to the government for approval. The Government in its Order dated 3rd April 1951 gave effect to these proposals.

The salient features of the Order were:

I. The appointment of qualified Librarians, one in the Madras Medical College, and another in the King Institute, Guindy. Stanley and Andhra Medical Colleges to have one Assistant Librarian each.

II. The qualifications required of the Librarian and Assistant Librarian
Librarian
a) Bachelor of Science degree
b) Diploma in Librarianship
c) Diploma in one or more of the European languages
Assistant Librarian
a) Bachelor of Science degree
b) Diploma in Librarianship or one or more of the European languages
c) An Assistant Librarian should acquire the other qualification under (b) above in the course of his service to become eligible for promotion as librarian in due course.

III. Sanction was accorded to incur additional expenditure for purposes of procuring books and periodicals. The additional grants were:

	Recurring	*Non-Recurring*
Madras Medical College	Rs.14,000 per annum	Rs.16,000
Stanley Medical College	15,000 per annum	—
Andhra Medical College	18,500 per annum	—
King Institute	6,000 per annum	—

(It may be noted that these grants were in addition to the usual annual grants of Rs.10,000 to 20,000, depending upon the institution, for purchase of books and periodicals)

The new grants are not sufficiently substantial to be complacent about them, but are definitely an improvement upon the existing conditions. The Government Order opens up a new chapter in the history of medical libraries in Madras State. The best feature is that it insures that the libraries will be in the hands of persons qualified to manage them. It may be some time before really efficient service can be rendered, for the new librarians will be up against the lethargy and haphazard management of decades; but it is just a matter of time before the whole picture of medical library service is changed.

The benefits of the reorganization scheme have come to be realized even now, just a year after its implementation. For instance, in the Madras Medical College issue statistics for 1952 show that the number of books loaned out has increased by nearly 4000 over the previous year's figures. For the current year it is still on the increase. The reason is simple: during the previous years because of limited funds ample copies of latest textbooks for students could not be provided. Medical texts are beyond the purse of many students and dependence on library copies is great; so, with the addition of the latest works the library users have trebled in number. The scope of library service to the students, postgraduates, and other research workers has been greatly widened. Reference service and literature searches have been intensified. In 1952, as a sort of beginning, six bibliographies of over two hundred entries each and five shorter reference lists were prepared on request in addition to the answering of several short range questions. Translation of articles from French has also been a new feature. When the basic needs are cared for, it would not be difficult to start microfilm, photostat, and documentation services for the Madras Medical College students and also for every medical man who may be in need of such services. It is heartening that the acquisition policy has been on the right lines. A check with the list of the Criteria Committee of the Medical Library Association indicates that the Library has over 85% of the titles and together with the resources of the libraries in the city over 90% of the titles are held.

There is nothing novel in the services rendered nor in those which are envisaged, but they are mentioned to indicate the difference between the old and new policies.

Future Needs

Finance

The problem of inadequate finances is common to many libraries not only in India but in other countries as well. But in our case it is particularly acute. It is hard to keep pace with the onslaught of medical literature, but even to have the best of the lot in the way of monographs, periodicals, and pamphlets means larger budgets. Acquisitions in the Madras libraries consist mainly of works published in Europe or the United States. By the time the material reaches India the cost of transportation increases the published price of the

book. Back sets of many journals are badly needed and all these must be procured from outside the country. One way to reduce acquisition cost would be to get materials on exchange, but the Indian libraries do not have much to offer in return at the moment. However, I am sure, many of the bigger medical libraries in the States would be able to spare a lot of duplicate sets of periodicals.

Better Buildings

With increased grants the quantitative inflow of books and periodicals creates the problem of accommodating the stock as well as the readers; floor space is being swallowed up quickly. The Madras Medical College has a student body of over one thousand, 150 post-graduate students, and a large staff using the library. Before the crowding becomes too serious, better libraries for service must be built up in every college.

More Trained Staff

To cope with efficient acquisition and distribution of the accumulating medical literature, trained staff in larger numbers is essential. The reorganization scheme now provides for only one professional in each of the libraries. Obviously, this is inadequate, especially in the larger libraries, even in normal times. With the reorganization work on hand there is little time to train assistants or to guide and help staff and students to the desired extent in the use of the library and literature.

Special Training for Medical Librarians

While the techniques of routine procedures do not vary much between the medical and general library, the nature of the service varies due to the difference in the kind of material and types of clientele with which each has to deal. The medical librarian would be able to render better service if he were familiar, in addition to library techniques, with medical resources and their use in medical education and research, with bibliographic organization and documentation in the field, with current trends in medicine, with medical terminology, and so on. For this purpose the librarian need not undergo a five-year course in medicine and surgery. If in the advanced stages of library training those who desire to become medical librarians are provided with a special syllabus, given opportunities to attend lectures on medical history, recent progress surveys, etc., and given practical observation in large libraries for special methods of literature searches and documentation work, it would be quite sufficient for the candidates to build on by further reading and experience. Such special facilities in library training must be planned for. In this connection, I must express great appreciation for the work of the Medical Library Association in cooperation with the Rockefeller Foundation and the Institute of International Education in offering fellowships to foreign students for study

and the observation of medical library practice in the United States. Quite apart from the opportunities for study the visits make for better international understanding and good contacts for mutual benefit in the immediate present as well as in the future.

Cooperation

The absence of excellent but none-too-easily accomplished and gigantic schemes of international bibliographic control, world wide documentation, etc., would be less keenly felt in India if fuller cooperation among librarians and libraries in much smaller areas, such as a city, a state, or country could be achieved. It will not be long before the South Indian medical libraries will have to think in terms of cooperation and coordination of activities in order to widen the scope of overall service. Cooperation can be effected at the acquisition as well as distribution phases. While there is no question about libraries individually acquiring student texts, essential reference works, and periodicals, the acquiring of costly sets, advanced and highly specialized material, and none-too-often used works should not be undertaken by the individual library; here, cooperative purchase would be beneficial, especially when budgets are limited, stock-in-service small, and duplication is to be avoided.

Cooperation is good in itself; in our area certain factors are particularly in its favor. Now and then, in the different colleges individual research programmes become active, for example, research on malnutrition in one place, cardiac disease in another, cancer in a third, arthritis in a fourth. It is natural that the professors concerned with the specific research programmes will see that the necessary literature on the subjects is procured in the libraries of the respective institutions. If this enriched literature is made known to other institutions and libraries and interlibrary loan facilities established, one can easily envisage the good possibilities. A recent trend has been the upgrading of several departments or the starting of new courses (sometimes in cooperation with such agencies like the W.H.O.), such as Anatomy at the Stanley Medical College, Venereal Diseases Department in the Government General Hospital, Department of Midwifery in the Hospital for women and children. Activities of these departments have been extended as well as intensified; new departmental libraries have been organized for special purposes. Again, a number of hospitals, where students and postgraduates are enrolled for training or research, are not in the immediate precincts of the college, for example, the Ophthalmic Hospital, the Tuberculosis Institute, the Mental Hospital, and in these institutional libraries there are small specialized collections. Thus, a number of small collections on particular aspects of medicine are distributed among a number of institutions situated in different parts of the City. Books in these collections may not be used greatly outside the institution, but whenever necessity arises, interlibrary loans should be easily arranged. Even now, there does exist a sort of

interlibrary loan system; but greater attention should be given to the formulation of a code for working procedures to institute regular, quick, and systematic service between libraries. A union catalog of the collection in the various libraries would be highly useful; until such a catalog is prepared, recent additions lists should be circulated among the libraries. Cooperation at the acquisition stage naturally presupposes cooperation at the distribution phase.

In regard to holdings of medical periodicals, the Indian Research Fund Association published in 1933 a catalog of periodicals, journals, etc., received in the libraries of certain medical institutions in India. In 1946 a revised edition was contemplated. The Directorate General of Health Services brought out in 1948–49 the *Consolidated Catalogue of Journals and Periodicals in the Libraries of Certain Medical Colleges, Schools, Universities, etc., in the Dominion of India*, volumes 1–2 (corrected up to 31st December 1945). The latest 1952 *Union Catalogue of Medical Periodicals in Indian Libraries* (corrected up to 31st December 1950) is a revised edition of the *Consolidated Catalogue*. In the *Union Catalogue*, holdings of forty-five institutions covering about sixteen hundred journal titles are given. Although certain non-medical periodicals are included in the list, it is a very useful union catalog.

Rare Books and Works on the History of Medicine

Lt. Col. McDonald in his report of 1945 had already pointed out that collections of old and rare volumes found in many libraries were neglected and he recommended that someone conversant with medical literature should be appointed to deal with them. An All-India scheme for the organization of such rare material was inaugurated in 1946. In South India the medical colleges, district lending libraries, and other institutions having anything to do with medicine and related subjects were requested to submit a list of all books published prior to 1900 and other rare volumes in their possession. Some of the works listed were requisitioned from the district lending libraries and incorporated into the collection of such works at the Madras Medical College. A preliminary survey of the collection was made by Dr. Subba Reddy. Some idea of the material is given in the *Bulletin of the History of Medicine*, 23: 92–94, 1949. An attempt is being made to arrange and record the contents of the collection and also to build upon the nucleus material in medical history and biography, particularly in relation to India.

Dr. Henry Sigerist in his article in the Bhore Committee Report (v. 3, app. 47) stressed the need for the establishment of an Institute for the History of Medicine in India. He pointed out that on the staff of such an institution there should be scholars in Sanskrit, Greek, Arabic, Persian, etc., to deal with texts in those languages; that it should have a strong collection of

the basic medico-historical literature—books and journals—medical texts in the best editions and translations and as many reference books as possible. It should also include a number of non-medical books, such as basic books on political, social and economic history, the history of philosophy, religions and other disciplines, books that are constantly needed for general orientation.

The institute will in addition collect other documents pertaining to the medical history of India, manuscripts, photographs, portraits, objects such as instruments, etc., and it may consider the creation of a museum of indigenous drugs.

Dr. Sigerist also suggested that it would be preferable for the Institute of the History of Medicine Library to be in connection with or as an annex to the Library of the All-India Medical Institute.

The All-India Medical Institute

The history of medical libraries in any part of the country would not be complete without mention of the proposed All-India Medical Institute and its library. In accordance with the recommendations of the Bhore Committee, the All-India Medical Institute is being established to provide the best facilities for advanced medical training and research. The Advisory Committee which was created to make recommendations for the establishment of such an institution recommended the setting up of four such institutions in different parts of India, the first one to be located in Delhi. In connection with the establishment of the library of the Institute for the inception of "a medical library service adequate for the requirements of India," the Committee's remarks and suggestions are here quoted:

One of the prime needs of an intellectual community is an effective library service and this is more especially the case where a highly technical subject such as medicine is concerned. India is at a great distance from other centres of scientific thought and she must inevitably draw her knowledge of advances and discoveries from books and journals published in other countries. She must largely be self-contained and the need for a full and well selected central library is even greater than that of Europe and America, where facilities for the dissemination of knowledge are more highly developed. Such a central library should be fully adequate for both reference and for the purposes of research. It should be linked with a chain of smaller regional libraries in the more important centres of medical research and education in the provinces, by flexible and extensive service of exchanges.

We are told that there is at present no medical library in India with more than 11,000 volumes, apart from bound numbers of periodicals, while the library in the office of the Director-General, Indian Medical Service, contains only 20,000 volumes. India has not the funds to institute a library comparable with the more important libraries of the world. . . . It seems to us, however, to be not unreasonable that we should recommend the establishment in India of a central library, providing in the first instance for the housing of 60,000 to 100,000 volumes.

A medical library of about the size we have in mind exists on the Pacific coast of America—the Lane Medical Library at the Stanford University housing, in 1928, a representative collection of 65,000 volumes along with a large collection of pamphlets and reprints, and subscribes to 460 journals from all parts of the world. Owing to the geographical situation of California and its distance from the more important centres in the Eastern states this library has to be relatively self contained. The problem was in many ways parallel to that India will have to face and a study of the manner in which it was dealt with should prove profitable to us. The special building which houses the library cost 160,000 dollars with reading room space for 140

readers and stacks to hold 75,000 with ample provision for expansion. The budget for the year 1927–28 was 17,150 dollars. Of that sum 8,792 dollars were allotted to salaries, and 8,357 dollars to books, periodicals and binding.

. . . . . .

We are fully persuaded that in order to put the proposed library service on a sure foundation, an exploratory survey of the facilities existing in the United Kingdom, the United States and elsewhere should be undertaken by one or two officers (of whom at least one should be an Indian) deputed for the purpose.

A suitable programme for such a deputation is suggested below:

1. A study of medical libraries in the U. S. A., such as those at New York, Boston, Philadelphia, Baltimore, Washington and the Lane Library at the Stanford University. Contacts, *inter alia*, with the Medical Library Association, the Surgeon General's Library and publishers of medical literature.

2. A study of the medical libraries in the U. K. especially those of the Royal Society of Medicine, the Royal College of Surgeons and the Radcliffe Library at Oxford. Also the National Central Library regarding exchange facilities between libraries.

3. Investigation of the scope of translation, abstracting and microfilm services from the U. S. A. and U. K.

4. Obtaining rough estimates from various sources of cost in respect of buildings, staff and other facilities which should be provided.

5. We suggest that there should be in London, a correspondent to the Library who will watch its interests in the West and act as a channel both of information and of supply in matters concerned with the library service.

6. If an experienced librarian proves to be immediately available, we suggest that he should be engaged on a preliminary two or three years' contract to work in the first instance in the Directorate of Health together with the Indian officer who has made the survey, in establishing a catalogue of books and periodicals to form the nucleus of the Central Library, and initiating courses of training for junior members of the library staff and also in consulting with the architects engaged on plans for the library.

7. The Central Library we envisage is one chiefly devoted to research and should be established in association with the All-India Medical Institute. When similar institutions are established elsewhere they have to be provided with their own libraries. A case can be made out for an entirely separate library in the directorate of the future civil health service. We prefer, however, to leave that question, together with the proposals for the establishment of regional libraries, to the consideration of the Governments concerned after the survey, which we have suggested has been completed, when fuller and more exact information will be available.

The Report then endorses the view of Dr. Sigerist that the library of the Institute of History of Medicine should also be established in association with the Library of the All-India Medical Institute. The suggestions of the Committee are all acceptable except that the cost of material whether it be for building and equipment or books and periodicals has now gone up considerably so that much larger initial outlay and annual grants are needed at present. The Central Library will naturally assume the position of a center for clearance of medical information in close cooperation with libraries in and outside India.

The District Medical Libraries

While the District Headquarters Hospital Libraries have as their primary object service to the staff of the attached hospitals, they should, with better budgets, be in a position to act as sources of reference for all the medical practitioners of the Districts. Any doctor, whether he be in the busiest city or

in the calmest village, will feel the need to keep himself abreast of the advancing front of medicine if he is not to find himself outwitted by the more enterprising or misled by advertisements of wonder drugs. While ninety percent of India's teeming millions live in the villages, ninety percent of her doctors practice in the towns. It is true that the remuneration of the "village doctor" is comparatively lower, but the village dweller needs as good a medical relief system as the town dweller. It is probable that one of the contributory causes for the poor concentration of good doctors in the villages is that they find themselves cut off from the rest of the world; they get next to nothing in the way of books and periodicals to keep in touch with and interested in the advances in the art and practice of medicine. It should be made possible for the Headquarters Hospital Libraries to cater to the needs of the rural practitioners by interlibrary loans, mobile book service, package book service, microfilms, and select bibliographies.

Conclusion

The medical libraries in Madras State are definitely turning to brighter chapters now. With improved financial structure and qualified staff to man them, not only students, staff, postgraduates, and research workers who are in immediate contact with the libraries but everyone interested in medical, social, and cultural work may look to these libraries with the confidence that they will be kept supplied with correct and current information, whether it be on the most minute or on the most general aspects of the subjects. With improvement in the existing medical library facilities in other states, with the proposed All-India Medical Institute Library, union catalogs, better exchange and interlibrary loan facilities, microfilm, photostat, and translation service, and increased cooperation and coordination, India will have a network of centers for interchange of information in the field of medicine and allied subjects.

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Paul Ehrlich (1854–1915) and the Printed Word

By Karl A. Baer, *Librarian*

American Pharmaceutical Association
Washington, D. C

AT A TIME when investigations of the reading habits of scientists have become a fashionable pastime of librarians and "documentalists," it might be interesting to consider Paul Ehrlich's relation to books. The intimate biography written by his former secretary, Martha Marquardt,[1] supplements other sources to give us at least a glimpse of his life-long reading habits.

The boy had at his disposal the encyclopedic library which his grandfather, a well-to-do grain merchant and distiller, had gathered over the years. This collection included the outstanding works in the fields of literature and the fine arts, but was particularly strong in both pure and applied science. We may be sure that Paul used it with the lack of discrimination proper and called for in one of his age. Undoubtedly, grandfather's books supplied the stimulus for his first boyhood "experiments" with colors and dyestuffs.

Later in life, Ehrlich discovered that the law of "affinity," which he found to govern the relations between tissue and foreign substances, a law fundamental to some of his most important discoveries, was equally effective in his own approach to the literature. According to his own statement, this affinity made him take notice of whatever related to his own scientific endeavors and caused him to bypass what was not pertinent. He called his ability to glance quickly over a long scientific article and pick out the points essential to him "the art of reading diagonally." "It is necessary," he said, "at all times carefully to follow up certain lines of thought—'red strands'—when studying the literature; only this approach makes reading fruitful rather than confusing."

As far as we know, Ehrlich's headquarters, the Institute of Experimental Therapy at Frankfurt a. M., had no librarian, and this was just as well. Ehrlich's study served as his library and he was his own librarian; books and journals covered tables, chairs, and sofa, and were piled on top of each other practically from floor to ceiling. In the earlier days his factotum Kadereit had to clear the books off the sofa when important guests were expected, but later on it was found that time could be saved by leaving the books where they were. No systematic search of this hodge-podge of literature was possible; only

[1] Paul Ehrlich. London, Heinemann, 1949.

Ehrlich himself was able to find anything, and his ire fell upon anybody who tried to bring order into what was to everybody but him utter chaos. Ehrlich always found it difficult to part with borrowed books; frequently, the reason was that he had adorned the copy with notes, sketches, and drawings to such an extent that he was embarrassed to return it. On the other hand, he usually spent more than one-half of his salary on books—and this probably did not include his extracurricular reading. Like many men forever engrossed in difficult intellectual tasks, he was extremely fond of relaxing with a detective story. The scientific methods of Sherlock Holmes appealed particularly to him, and we are told that Sir Arthur used to send him complimentary copies inscribed "to my great colleague."

His approach to the written word and his high regard for it are worthy of note in a man whose main field of action was the laboratory. Looking at the achievements derived from his working methods, we librarians might well use them as advertising copy for our wares.

Notes from London

There was once a saying "The librarian who reads is lost," and we often wonder what the author of this dictum—himself a distinguished librarian—would think of his many successors who not only read but *write*. The number of valuable contributions made by colleagues on both sides of the Atlantic to the literature of librarianship, bibliography, and the history of medicine is constantly increasing. Among recent works in the historical field a high place must be given to the eagerly awaited *Lives of the Fellows of the Royal College of Surgeons of England, 1930–1951*. Mr. W. R. Le Fanu, the Librarian of the College, has been responsible for the editing of the whole volume and he is the author of the memoirs (with nine exceptions) of all those Fellows who died after 31 October 1940. The book, which is of course a continuation of Plarr's *Lives of the Fellows* (2 vols. 1930), extends to 889 pages. The notices are masterpieces of condensed biography, and librarians will be particularly grateful for the bibliographical and iconographic information which they contain.

* * *

Students of Tudor history will be familiar with a dilemma known as "Morton's fork"—a cunning device by which Henry VII's chancellor extorted exorbitant taxes from both rich and poor. If a man lived handsomely, his wealth was manifest, and if he lived plainly, his economy must have made him wealthy. A similar argument has long been used by our friends the booksellers with reference to another Morton. Readers of catalogues of old medical books will be perfectly familiar with the notes "A Garrison-Morton Classic" and "Excessively rare. Not in Garrison-Morton." So does history repeat itself. You (or your Committee) have "had it"—either way. This reflection is prompted by the welcome news that the complete text of the second edition of Garrison and Morton's Medical Bibliography is now with the printers and that the great work can be expected during the summer of 1954. This edition is to be printed in Times New Roman and will contain more than 1,000 new items. Considerable additions have also been made to the annotated lists of histories of medicine and the original entries have been carefully revised and in some cases pruned.

* * *

We are also able to report that John L. Thornton and R. I. J. Tully's *Scientific Books, Libraries and Collectors*, a companion volume to Mr. Thornton's well-known *Medical Books, Libraries and Collectors*, is to be published under the auspices of the Library Association.

* * *

Attention was recently drawn in these notes to an article by Dr. Ffrangcon Roberts entitled "Lingua Medica" (*Brit. med. J.*, June 27, 1953, p. 1444). Dr. Roberts has now expanded his article into a little book on *Medical Terms:*

Their Origin and Construction (London: William Heinemann Medical Books Ltd., 1954, price 6 shillings).

* * *

The *British Medical Journal* of August 29, 1953 dealt with the intriguing question of whether the cost of scientific reprints would be an allowable expense for income-tax purposes. The official reply, which was not very encouraging, pointed out that the reasons for publishing lectures and papers are mixed. Apart from the desire to spread medical knowledge, personal aims, however legitimate, cannot be discounted. It was thought that the argument for the allowance of printing costs would be stronger if the author were a specialist dealing with his own department of medicine than if he were a general practitioner. The question is not without interest to medical librarians in view of the size of the "reprint problem" in many libraries and it has wide implications. If the proliferation of journals is to continue at the present rate it may be that many of us will be forced to make much greater use of reprints. It would, incidentally, be interesting to know when the reprint first emerged as a distinct form of medical literature. We cannot remember handling more than a few dating from before the 1840's, and would be grateful for references to early examples.

This is only one of many aspects of a theme which might appeal to a librarian interested in the influence of current economics on his profession. The intricacies of claiming allowances for legitimate expenses incurred in the course of professional duties are equally bewildering on both sides of the Atlantic, but recent correspondence in the *Lancet* on the difficulties which beset the British practitioner under the National Health Service could not be appreciated in other countries without a knowledge of the background. Whole-time salaried consultants, of whom there are now a fair number, are treated far more stringently in such matters as allowances for expenditure on professional literature and attendance at congresses than their part-time colleagues. The inevitable result is that many of them are cancelling journal subscriptions and buying fewer books than they really need, so that pressure on medical library services is increasing rapidly. Who will foot the bill for the expansion of resources made necessary by this ever growing demand? Can we anticipate a National Medical Library Service to complement the National Health Service? These are thorny problems which the library economists might well discuss. Recalling a recent symposium, we suggest—and our suggestion is spiced with the merest dash of irony and a soupçon of ocular twinkle—that the title for such a study might well be "The rôle of the tax-collector in the development of the medical library."

* * *

PAUL EHRLICH CENTENARY EXHIBITION

An exhibition to celebrate the centenary of the birth of the great German biochemist Paul Ehrlich was opened in the entrance hall of the Wellcome Re-

search Institute, London, England, on Thursday, 25th March. The exhibition was prepared by the Wellcome Historical Medical Museum and consisted of original manuscripts, letters, diplomas, and other documents, as well as apparatus, printed books and papers, paintings, and photographs. These were so arranged and displayed as to give a comprehensive view of Ehrlich's life and work. The opening address was given before a distinguished audience by Sir Henry Dale, O.M., F.R.S., F.R.C.P., who worked with Ehrlich in his laboratory fifty years ago, when Ehrlich found that trypan-red was lethal to the trypanosome in laboratory animals—his first significant discovery in chemotherapy. In a characteristic address, made even more interesting by personal reminiscences and anecdotes, Sir Henry announced that the Wellcome Trustees were honouring the memory of Ehrlich by sponsoring the publication of his collected works, both published and unpublished.

Sir Howard Florey also spoke and seized the opportunity to remind us that in the field of chemotherapy we were still living on the intellectual capital laid out by Ehrlich half a century ago. Ehrlich was a creative thinker, the type of man of whom we are in great need today. Too much time was spent in laboratories all over the world in a kind of mechanical indexing of innumerable compounds, all on the chance that "something might turn up." Too little time was spent on the type of thinking which Ehrlich had proved to be so fruitful. He hoped that the celebrations of Ehrlich's centenary would stimulate young chemists to follow his example.

A personal link with Ehrlich was provided by the presence of Miss Marquardt, Ehrlich's secretary for more than 13 years and the author of his biography. It was largely owing to her efforts, energetically supported by Sir Henry Dale, that so much of the original material on view in the exhibition had been rescued from the almost derelict institute in Frankfurt in 1945. Among the most interesting of these was the typed copy of Ehrlich's graduation thesis, the original of which was destroyed at Leipzig during the late war, and the original diploma awarding Ehrlich the Nobel Prize.

INDEX OF HISTORICAL PAPERS

There has just been issued from the Wellcome Historical Medical Library, the first number of a quarterly index of papers published currently on the history of medicine. If there is sufficient demand for this it will continue to be issued as a part of the library service to medical historians and libraries wishing to receive it. The index, which is rotorprinted, is arranged alphabetically by subject and the address of the author is given wherever it is known. Authors of historical articles are invited to send reprints for inclusion in the list to: Mr. F. N. L. Poynter, Librarian, Wellcome Historical Medical Library, 183, Euston Road, London, N.W. 1., England.

Miss Wilma Troxel

President of the Medical Library Association 1954–55

President's Page

WILMA TROXEL

President, Medical Library Association 1954–55

Miss Wilma Troxel came to her position at the University of Illinois Medical and Dental School well prepared. She is equally well equipped to carry the responsibilities which she assumes with her present office of President of the Medical Library Association.

Miss Troxel was born in DeLand, Illinois, the youngest of four children, two boys and two girls. She graduated from Illinois Wesleyan University, Bloomington, Illinois, in 1926, with a B.S. degree. In 1927 she received a B.S. in L.S. from the University of Illinois Library School and in 1932 an M.A. from the same institution. From 1927 to 1930 she was assistant librarian at Illinois Wesleyan University and while studying for her Masters degree worked in the catalog department of the University of Illinois. In 1934 she succeeded Miss Metta M. Loomis as librarian at the Medical and Dental Library of the University of Illinois in Chicago. This is now known as the Quine Library of Medical Sciences with the incorporation of the pharmaceutical and nursing school collections. The full-time staff numbers thirteen. Miss Troxel is an Associate Professor of Library Science in the Library School of the University of Illinois.

Her professional interest is further indicated by the several appointments she has held in the Special Libraries Association as well as in the Medical Library Association. She edited the *Informant*, the journal of the Illinois Chapter of the Special Libraries Association in 1943–4; in the succeeding years she served as Vice President and President of the same chapter.

The Medical Library Association has been the recipient of her loyal support since her appointment as Librarian of the University of Illinois Medical School in 1934. She has attended every Annual Meeting of the Association since that date and, in 1953, participated in the First International Congress on Medical Librarianship in London with the presentation of a paper entitled "The Future in Medical Library Education in America" in a "Symposium on Education and Training for Medical Librarianship." She has served on numerous committees of the Medical Library Association, including the Committee on Standardization of Library Statistics (1936–37); the Nominating Committee (1945–48; chairman, 1948); Committee on the Establishing of Awards (1947–48); Committee on Awards for Outstanding Achievement in Medical Librarianship (1948–50); Subcommittee on Internship (1948–52; chairman, 1952); Chairman, Committee on Standards (1952–53); Program and Entertainment Committee

(1951–52); Board of Directors (1949–52). She was also Chairman of the Committee on Task Analysis for the Medical Library Association (1949–50).

When in 1949, the Veterans Administration sponsored four three-week courses in medical librarianship, Miss Troxel developed and presented the course which was given at the University of Illinois Medical School and was repeated there in 1950. She has given generously of her time and effort to visiting Association Fellows in support of the program of the Committee on International Relations. She has aided the Sub-Committee on Recruitment by discussing medical libraries at the Library School at Urbana. She has supported the Mid-west Regional Group in an advisory capacity and through the presentation of papers as needed. She has contributed a chapter on "Cataloging" to the second edition of the *Handbook of Medical Library Practice.* She is thoroughly familiar with the many activities of the Association either through participation or study, and her knowledge of and interest in its membership is broad.

Miss Troxel lives with her mother in an apartment in Chicago a few steps from the line which divides that city from Oak Park. Her leisure time is often spent in her car, hospitably shared with friends, either for long trips to the Rockies, excursions to the state parks, beside Lake Michigan's long and pleasing shore line, or to see the snowtopped houses gaily decorated with Christmas lights. She enjoys the company of her brothers, her sister, her nieces, and nephews—and quickly adjusts her time to make them welcome in Chicago or to attend out-of-town functions in their honor. She has many friends in Oak Park where she has long been a member of the First Methodist Church with especial interest in the Wesleyan Service Guild. She is a level headed administrator, a loyal kinsman, and a gay and titillating companion at a concert, sightseeing in Paris, or jaunting in her car. Her many friends within the Association hold her in high esteem professionally because of her sane judgment and her considerable experience, while those who know her best regard her with a warm and deep affection as well. The Medical Library Association will prosper under her administration.

L. MARGUERIETE PRIME

Editorials

MEDICAL LIBRARY ASSOCIATION PUBLICATION NO. 1

A GUEST EDITORIAL

At the meeting of the Medical Library Association last month the Publication Committee reported with much pride that *The History of Medical Bibliography* by Estelle Brodman had been published as Medical Library Association Publication No. 1. Not only were we proud to announce an event so important to the Medical Library Association as the publication of its first monograph under its own imprint and with its own funds, but we felt especial pride that the author is one of our own members, the very capable Editor of our BULLETIN who has been largely responsible for making the BULLETIN what it is today.

In going back through the records of what transpired to make this momentous event possible, I found that it started with the enthusiasm of different members of the Association as they read the first two chapters of this doctoral dissertation in mimeographed form. These chapters were described as masterly, and it was predicted that the whole work would be most useful and a real contribution. The draft of the third chapter was received with even more enthusiasm and the suggestion was made that perhaps the book could be issued under the auspices of the Medical Library Association; this was in May 1951. There followed many letters and discussions about such a possibility. Each letter and discussion added something to suggestions and comments already made, not only about this particular manuscript but also about the policy of the Association's going into the publishing business. Some of these comments were:

> "I think it would be a feather in MLA's cap if the book could be issued under MLA's auspices; it will be definitive for its field and the field is certainly within the scope of medical librarianship. It would add to the Association's prestige. . . ."
>
> "In my estimation it [the thesis] will constitute a real contribution to the literature of medical bibliography. . . . The matter of policy involved . . . is of course not for me to decide. If I had a vote, I would gladly vote to draw from our principal in savings to sponsor this publication, and I believe it would prove to be an asset rather than a liability. It is a publication which will not be dated, but will be of permanent value. In my estimation, this is what our savings are for—to encourage and sponsor activities which we feel will promote recognition of medical librarianship, and I believe that sponsorship of such a manuscript as this would definitely raise the reputation of medical librarians as scholars."

It is not possible to quote all the comments nor to name all the people who were responsible for the idea and who worked with zeal to carry it to fruition. However, there are certain people who should be especially mentioned; among these are the Misses Gertrude Annan, Marjorie Darrach, Janet Doe, Mary Louise Marshall, L. Margueriete Prime, and Mr. William Postell.

In June 1951 a Committee on Special Publications was appointed "for the purpose of taking care of the publishing of texts other than the BULLETIN." This committee was composed of Miss Gertrude Annan as Chairman, Miss Janet Doe, and Miss Mary Louise Marshall. In June 1952 this Committee reported as follows: "The first publication considered by the Committee is Miss Estelle Brodman's doctoral thesis. . . . The Committee feels that this is a significant contribution to the study of the development of this important subject and recommends that it be sponsored by the Association. The Committee further suggests that this be number one of a series of monographs that the Association may from time to time find worthy of issuing." In its 1953 report the Committee expressed the hope that the thesis would appear in print before another meeting of the Association. That hope was fulfilled when Medical Library Association Publication No. 1 appeared. It was decided to call it "Publication" rather than "Monograph" in order not to exclude from such a series in the future anything that was not a monograph, such as a scholarly, annotated bibliography within the scope of medical librarianship.

We hail those who had the vision to make the suggestion of such a publication series and we also hail all those who gave untiring help while the manuscript was being completed and going through the press. We hope that this first publication will be followed by many others as worthy to be published in the Medical Library Association Publication Series.

MILDRED E. BLAKE, Chairman
Publication Committee

A PLEA FOR RESEARCH IN THE MEDICAL LIBRARY

The term research has taken on such nuances of meaning in the past century that it has entered the realm of the complicated and the esoteric. To many people, as a result, it has seemed impossible of achievement outside a large institution with much space, an abundance of equipment, and a numerous staff. Indeed, it almost seems as if research has become the sacred cow of all scientific endeavor, something that is apart from ordinary life. That this is true in other fields as well as librarianship is shown by a recent article in the *Journal of the American Medical Association*[1] whose author points out that there is now, "an uneasiness born of the belief that research is necessarily a

[1] Bean, William B. Opportunity for research in general practice. J.A.M.A., 154: 639–642, 1954.

matter of abstruse formulas, complex apparatus, and high voltage, which the novice had better leave alone . . . Far too many simply give up without a try."

But it is *not* necessary to set up elaborate schemes or to deify the concept of experimentation to try out new ideas. The first man who chipped a stone to fit his hand more comfortably than the chance stone he picked up was an experimenter *sine nomine*, and the use of card catalogs instead of book catalogs was just as much an experiment as Urey's work on heavy water. The advance of knowledge, as Isaiah pointed out, is slow, "For precept must be upon precept . . . line upon line . . . here a little, and there a little."

It may be argued that libraries are not set up to handle research problems. For example, it is often said that a library is an organization whose main purpose is operations and not research; as such it is not equipped to cope with possibly non-productive work: it does not have the manpower "cushions" to release staff members from other duties, it does not have the space, and frequently it does not have the people trained in the techniques of experimentation. In some libraries, moreover, rigid compartmentalization makes it difficult to switch people or equipment from one type of job to another.

Even granting that all this is true, however, it is still possible to do research in an ordinary medical library. The important thing is not the size of the institution in which the work is to be carried out, nor the size of the problem, nor even the reputation of the workers involved in the research. (As Dr. Bean also points out, "In the sceptical mind of a few of us, the feeling is gaining weight that research by caucus and committee will not yield the necessary clues.") What is important is the logical fashioning of the questions to be asked in the research and the reasoned ordering of the circumstances in the experiment so that the questions asked will be answered unequivocally. Just as good medical research is carried out in small clinical centers, so good library research can be carried out in small hospital libraries. What is needed is not size but vision. Surely medical librarians have this!

Association News

OFFICERS OF ASSOCIATION FOR 1954–55

At the Annual Meeting of the Medical Library Association in Washington, D. C., in June, the following persons were elected to office:

President	Miss Wilma Troxel, Chicago, Illinois
Vice President (President-elect)	Mr. Wesley Draper, Brooklyn, N. Y.
Honorary Vice President	E. H. Cushing, M.D., Washington, D. C.
Secretary	Miss Esther Judkins, New York, N. Y.
Treasurer	Miss Pauline Duffield, Austin, Texas
Board of Directors	Miss Clara Manson, San Francisco, Calif.
	Mr. Robert T. Lentz, Philadelphia, Pa.
Nominating Committee	Miss Mary Post, St. Paul, Minn.

MIDWEST REGIONAL GROUP

Eighty members of the Midwest Regional Group of the Medical Library Association met on Friday, February 5, 1954, at the American Medical Association, Chicago, for the annual mid-winter meeting.

The group assembled at 2:00 p.m. in the A.M.A. Library, with Miss Magdalene Freyder, Librarian, as hostess, and then toured the A.M.A. building. At 3:30 p.m., Dr. Donald Washburn, Chairman, opened the afternoon session in the A.M.A. Auditorium, introducing Miss Helen Crawford, Medical Librarian, University of Wisconsin, the Program Chairman for the meeting. Dr. Austin Smith, Editor of the *J.A.M.A.*, welcomed the group on behalf of the A.M.A. Miss Wilma Troxel, Librarian, University of Illinois Medical School, was introduced as Vice President and President-elect of the Medical Library Association. She brought greetings to the group from Miss Marion Dondale, Albany Medical College Library, President of the Medical Library Association.

The program for the afternoon consisted of a panel on personnel with the following as participants: Dr. Peter A. Volpe, Manager of Hines V. A. Hospital; Mrs. Breed Robinson, Placement Advisor of the M.L.A.; and Mr. Harry A. Dewey, University of Wisconsin Library School. Following this a short business meeting was held with Dr. Donald Washburn, Chairman, presiding. The meeting adjourned for dinner at the Yonkers Restaurants, Inc.

MEMORIAL COLLECTION IN HONOR OF MRS. JOSEPHINE G. MORTON

As reported earlier (Bulletin, 41: 297, 1953), the medical librarians of Washington, D. C., established a memorial collection of medical literature in

the Howard University School of Medicine as a memorial to Mrs. Josephine G. Morton, who had been librarian there for many years before her death in 1952. This collection has been added to since the initial donation of thirty-three volumes, some books coming from the BULLETIN and some from the school itself. A recent letter from the present librarian, Miss Edith J. Daniel, states:

> I wish to express to you, and to the other medical librarians of the District of Columbia who have so generously set up and developed the memorial collection for Mrs. Josephine G. Morton, our deepest appreciation for the recent additions to this collection.
>
> May I mention also that Dean Johnson has allotted five hundred dollars for the purchase of books to be added to the Morton Collection.

FUTURE MEETINGS OF THE ASSOCIATION

The 1955 Annual Meeting of the Medical Library Association will be held in Milwaukee, Wisconsin, and that for 1956 in Los Angeles, California.

News Items

ROYAL SOCIETY OF MEDICINE'S WELLCOME RESEARCH LIBRARY

A much needed addition to the space required to house the Royal Society of Medicine's library of over a quarter of a million volumes was opened on December 4th. The new Library is called the Wellcome Research Library and was made possible by gifts amounting to £125,000 from the Wellcome Trustees. A fourth floor was added to the Society's building and the second floor was altered so as almost to double the library space. Accounts of the official opening may be found in the January 1954 issue of the *Proceedings of the Royal Society of Medicine* and in the December 5, 1953 issue of the *British Medical Journal*.

NEW APPROACH TO SPECIAL LIBRARY EDUCATION

In the January issue of the *Library Quarterly* appeared the composite report of the studies made by members of the Sub-committee on Education for Special Librarianship, which is sponsored by the Joint Committee on Library Education of the Council of National Library Associations. The report outlines a new approach to professional training in special subject fields. Since not all subject areas are covered and the Subcommittee is continuing its work, the report is not final. The chairman, Mr. Edward N. Waters, Music Division, Library of Congress, welcomes comments and suggestions on the studies. Reprints of the article are available upon request to Miss Eleanor S. Cavanaugh, Librarian, Standard and Poor's Corporation, 345 Hudson Street, New York 14, N. Y.

SURVEY OF KOREAN MEDICAL LIBRARIES BY COLONEL ROGERS

At the request of the Ministry of Health, Republic of Korea, and the Commanding General, Korea Civil Assistance Command, and with the approval of The Surgeon General of the Department of the Army, Lieutenant Colonel Rogers spent almost two months in Korea in March and April surveying the civilian medical library facilities in that country. He conducted the survey with a view of coordinating the various volunteer activities which are directed toward getting medical books and journals into the country, advising the Ministry of Health on how best the meager medical library resources of Korea could be pooled and utilized, and making recommendations regarding the training of Korean medical librarians.

CATALOGING APTITUDE TEST

An objective type test to determine aptitude for work as a cataloger and classifier of library materials has been developed by Dr. Thelma Eaton, Associate Professor, University of Illinois Library School, Urbana, Illinois. Construction of the examination has required several years and during the past three years it has been administered both to practicing catalogers and to students entering the profession in order to establish achievement norms. The test has been designed as an aid in counseling undergraduate students who may be interested in library work, and it will also be helpful in counseling beginning library school students in choosing an area of specialization in library work.

Dr. Eaton has been a member of the faculty of the University of Illinois Library School since September 1949, teaching the courses in cataloging, classification, and history of printing. Prior to this she had been Head of the Department of Library Science in Mississippi State College for Women. Originally a school librarian, Professor Eaton taught cataloging and was supervisor of practice library work at the New York State College for Teachers in Albany. During the war she served for three years as historian of the Army Air Force.

Single copies for inspection are priced at 35 cents each and may be obtained from the Illini Union Bookstore, University of Illinois, Urbana, Illinois. Packets of ten copies are $1.25.

PAPER ON LIBRARY INTERNSHIP

The January issue, Number 37, of the University of Illinois Library School's *Occasional Papers* is entitled *Library Internships: History, Purpose, and a Proposal*, and was written by Esther L. Stallmann, Associate Professor, The University of Texas Graduate School of Library Science. Miss Stallmann discusses internship in the development of library education and as a form of education used by other professions, pointing out the need for library internships and reviewing the problems to be faced; she concludes with a specific proposal for a library internship program. A copy of this paper will be sent to any individual or institution without charge upon request to the Library School, University of Illinois, Urbana, Illinois.

LIBRARIANS NEEDED IN FEDERAL SERVICE

The United States Civil Service Commission announces that there is still a need for librarians in various Federal agencies in Washington, D. C., and vicinity for positions paying entrance salaries of $3,410 a year. Applicants are required to take a written test and must have completed (a) a full 4-year college course which included at least 30 semester hours of study in library science; or (b) 4 years of progressive experience in library work; or (c) 1 full year of professional library training in a library school plus 3 years of college study or 3 years of progressive experience in library work. Full information regarding

the examination, and application forms, may be secured at many post offices throughout the country, or from the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted by the Commission in Washington until further notice.

The United States Civil Service Commission has announced an examination for Prison Library Assistant for positions, paying $3,410 a year, in Federal penal and correctional institutions in various cities throughout the country. Men only are desired. To qualify, applicants must have had appropriate education or experience and must pass a written test. Further information and application forms may be secured at many post offices throughout the country or from the U. S. Civil Service Commission, Washington 25, D. C. Applications will be accepted by the Board of U. S. Civil Service Examiners, Bureau of Prisons, % U. S. Penitentiary, Leavenworth, Kansas, until further notice.

LIBRARY BUILDINGS PRE-CONFERENCE INSTITUTE

A two-day Library Buildings Pre-Conference Institute on college, public, and school libraries, sponsored by the A.L.A. Building Committee and the Division of Architecture Committee, was held in St. Paul, June 19–20, in connection with the American Library Association's annual Conference.

Topics discussed were the Programming of Library Buildings, Preliminary Planning of Library buildings, and Working Drawings. Speakers included Keyes D. Metcalf, Director, Harvard University Library; Winston A. Close, Professor, School of Architecture, University of Minnesota; Carl Vitz, Librarian, Public Library, Cincinnati; and Louis Kaplan, University of Wisconsin Library.

The ACRL, the Public Libraries Division, and the American Association of School Librarians held separate meetings on the problem in building plans for their particular types of library.

MEETING OF THE HISTORY OF SCIENCE SOCIETY

The Annual Meeting of the History of Science Society was held April 3–4, 1954, in Baltimore, Maryland, at the Institute of the History of Medicine, William H. Welch Library. Dr. Dorothy Stimson, President of the Society, welcomed at coffee the members and guests as they arrived at the Great Hall, where hangs the famous Sargent painting of the four doctors—Halsted, Kelly, Osler, and Welch.

Dr. Richard Shryock, Director of the Institute of the History of Medicine, served as Chairman of the morning session. Dr. Eduard Farber, of Washington, D. C., spoke on "Vitalism and Modern Biochemistry," attempting to redefine the meaning of vitalism and biochemistry by reviewing earlier definitions, so that the conflict between the teleological and mechanical implications of both disciplines might be resolved and clarified for present-day standards. Dr. Herbert Klickstein of the Institute, presented the second paper on "A

Bio-bibliographical Study of Marie Sklodowska Curie's *Recherches sur les substances radioactives*." In connection with this talk, several editions of Mme. Curie's work and copies of the English, German, Russian, and French translations were on display. The third paper, "Minerological Aspects of Chemistry from Paracelsus to Becher," was read by Dr. Robert Multhauf, formerly of the Institute and more recently appointed as Curator of Engineering, Smithsonian Institution. Dr. Robert Siegfried of Boston University closed the morning session with his account of the "Attempts in the United States to Resolve the Differences Between the Phlogiston and Oxygen Theories."

After luncheon, Dr. Oswei Temkin of the Institute of the History of Medicine introduced Dr. Ludwig Edelstein, who spoke on "Greek Medical Empiricists," Dr. Richard Walzer of the Institute for Advanced Studies, Princeton University, on "Galen and the Arabs," and Mr. Dennis Duveen, New York City, on "Lavoisier and the French Revolution." The first paper formed an excellent basis for the scholarly paper which followed, a textual analysis of the Greek and Arabic versions of Galen. This study pointed out the linguisitic difficulties inherent in accurately assessing the Galenic influence in Arabic medicine. A need for further investigation in this comparatively unexplored field was shown, especially in view of the fact that over 100,000 Arabic manuscripts still remain untranslated. The Lavoisier paper was well illustrated by an interesting display of papers and publications in connection with the scientist's imprisonment during the Revolution.

In the evening, Dr. Leonard Carmichael, Secretary, Smithsonian Institution, presented a paper on, "The Role of the Smithsonian Institution in the Promotion of Science in America."

On the following day, the Society met at the Library of Goucher College, Towson, Md., where Mr. Morris Leikind, Medical Museum, Armed Forces Institute of Pathology, introduced the following three speakers: Mr. Charles Gant, National Science Foundation, Washington, D. C., who spoke on "The Uses of History as an Instrument for Policy Development," Dr. Hunter Dupree, American Academy of Arts and Sciences, Boston, on "The Federal Government and the Organization of Explorations in the Early Nineteenth Century," and Dr. Nathan Reingold, National Archives, Washington, D. C., on "The National Archives and the Historian of Science." After a meeting of the Council, the meeting was adjourned.

THE MAURICE J. STRAUSS COLLECTION OF MEDICAL PHILATELY

A new, temporary exhibition depicting the history and progress of medical science on postage stamps was displayed recently at the Division of Medicine and Public Health, Smithsonian Institution, Washington, D. C., the Health Museum, Cleveland, Ohio, and the Milwaukee Art Institute.

Started about two years ago, the collection is the work of Dr. Maurice J.

Strauss, Clinical Professor of Dermatology, Yale University School of Medicine. It comprises over four hundred different postage stamps from more than seventy-five countries and is arranged somewhat chronologically, beginning with early Greek and Egyptian medicine and continuing through the histories of several medical specialties. Stamps portraying Aesculapius and Imhotep on Greek and Egyptian issues and memorials honoring Louis Pasteur and the Curies appearing on French issues are included in the collection. From the Belgian Congo a postage stamp pays tribute to a tribal witch doctor. The United States' contribution to this record of the history of medicine in philately includes Major Walter Reed, Dr. Crawford W. Long of anesthesia fame, and Manesseh Cutler, a pioneer physician of the northwest territory. Each stamp in its series is carefully annotated with a brief biographical and historical description of the subject.

In addition to the stamps displayed, the collection includes several sections of issues depicting physicians as explorers, astronomers, presidents, and statesmen of different countries, medical patriots, physicians and scientists as writers, and those who made outstanding contributions to medical education.

COUNCIL ON SOCIAL WORK EDUCATION PROGRAM MEETING

The Second Annual program meeting of the Council on Social Work Education was held at the Hotel Statler, Washington, D. C., January 27–30, 1954. The program evolved around five subject areas with workshop programs in each area. Subject Area I entitled "Basic Content and Evolving Curricula in Social Work Education. Implications for Class and Field Teaching and for Practice," included Workshop F on the "Role of the Library in Professional Education." Mrs. Margaret Otto, Columbia University, and Mrs. Mary D. Paasch, Family Service Association of America, served as co-chairmen of the workshop, with Miss Dorothy McAllister of Howard University as recorder. The workshop brought many librarians to the program meeting of the Council for the first time and gave them an opportunity to identify themselves with the profession of social work. It is hoped that the next such workshop will draw more educators and practitioners.

The papers and discussion emphasized the need for joint professional approach to various problems in social work education to insure the fullest utilization of the library. Many of the seemingly technical problems of the library grow out of problems of the social work field itself, including the lack of agreement on the scope and content of social work and the lack of exact definitions for many of the professional terms. At the final session the following list of proposals and suggestions was drawn up as worthy of further study and for presentation to the Council:

1. The need for a continuation of this type of workshop. A specific project suggested was the collection and exchange of information about methods used in orientation of students and educators in the use of the library.

2. The need for the publication of a bibliography or index of completed theses and studies, and also of the research projects in progress in the field.

3. The need for the establishment of a depository for the minor publications and unpublished materials of value to social work research.

4. A proposal that the Council actively support and cooperate with the present project in the Social Science Division of the Special Libraries Association for the exploration of possibilities for the development of a centralized indexing and abstracting service in the social sciences.

5. A proposal that the Council express to the Library of Congress an interest in its proposed project to study the most useful method for organizing material for the use of specialists and research workers in social work.

NEW MEDICAL BOOK MERCHANDISING

A new package deal for merchandising medical books is being offered by The Williams & Wilkins Company, Medical Publishers of Baltimore, Maryland. The offer was tried on an experimental basis and was so successful that it is being extended on a larger scale. The 18th edition of Stedman's *Medical Dictionary* and the 3rd edition of *An Atlas of Anatomy*, by J. C. B. Grant, have been packaged in a custom made box to sell as a unit at a reduction of $2.00 from their combined retail prices. Bought separately the two books would cost $23.50. In the packaged combination they sell for $21.50. The package deal is being offered to dealers on a deferred billing, ninety day return basis.

NEW *LEHRBUCH DER TOPOGRAPHISCHEN ANATOMIE*

Instead of preparing a revised edition of the Springer Verlag's *Lehrbuch der topographischen Anatomie* by Corning, the publishers and Professor Anton Hafferl of the Anatomical Institute of Graz University decided to publish a new work. The result is the Hafferl *Lehrbuch der topographischen Anatomie* available at the price of $14.28.

NEW JAPANESE MEDICAL BIBLIOGRAPHY AND ABSTRACTS

The first edition of the *Japanese Science Review—Medical Sciences* edited by the Science Council of Japan and the Japanese Ministry of Education appeared in March. This two volume work presents a bibliography in English of 4,120 scientific research papers with abstracts in English for 1,130 of the papers listed in the fields of medicine, dentistry, and pharmacy selected from one hundred and fifty important Japanese medical journals for 1953. Succeeding volumes will be published annually. The bibliographic section gives for each title listed the name of the author and the institution at which the work was done, the title and citation of the original article, the language in which published, and the Universal Decimal Classification. The abstracts arranged according to the Universal Decimal Classification are prepared in accordance with the UNESCO directions for abstracts and are printed on heavy stock paper

which may be cut to make a card of standard size convenient for filing. Published in Tokyo by Gihodo, it is available from the Scientific Information Section, Ministry of Education, Tokyo, at a cost of $13.00 including postage. UNESCO coupons may be used.

RECENT ACQUISITIONS AT THE NEUROLOGICAL INSTITUTE LIBRARY

The Neurological Institute's Library, Columbia-Presbyterian Medical Center, issued in February number one of its *Recent Acquisitions, A Selection.*

FEDERATION OF AMERICAN SOCIETIES FOR EXPERIMENTAL BIOLOGY

The annual meeting of the Federation of American Societies for Experimental Biology was held in Atlantic City from April 12–16. The Federation, a consolidation of six scientific societies, American Physiological Society, American Society of Biological Chemists, American Society for Pharmacology and Experimental Therapeutics, American Society for Experimental Pathology, American Institute of Nutrition, and American Association of Immunologists, formed in 1912, has today a membership of 4245. Seventeen hundred and twenty-one papers were presented at the meeting with five sessions devoted to the effects of radiation.

PASSANO FOUNDATION AWARD TO DR. HOMER W. SMITH

The Board of Directors of the Passano Foundation selected Dr. Homer W. Smith, Professor and Chairman, Department of Physiology, New York University College of Medicine, as the recipient of the $5000 Award for 1954. It was made on June 21 during the week of the American Medical Association convention in San Francisco. The Award to Dr. Smith was in recognition of his contributions to the knowledge of the physiology of the kidney over the last twenty years. His work has formed the basis for the several tests of kidney function now used routinely and has led to the development of surgical techniques for kidney operations. His book, *The Kidney, Structure and Function in Health and Disease,* published in 1951, is recognized as the classical work on the subject, and his recent work, *From Fish to Philosopher,* presents a new interpretation of evolution told around the evolution of the kidneys.

LOUISE ROBERTS A WASHINGTON "GIRL FRIDAY"

On Friday, March 26, *The Washington Post,* Washington, D. C., carried an article on Louise Dinwiddie Roberts (Mrs. John C.) and her work as medical librarian of the William Mercer Sprigg Memorial Library at Doctors Hospital

in that city. It was entitled "Bring on the Latin Terms!" and was one of a series on "Washington Girl Fridays" by Estelle Jackson. Along with the article was a picture of Mrs. Roberts in consultation on a medical research problem with Dr. William Earl Clark, chairman of the Hospital's library committee, and Dr. Charles Stanley White, president of the board of directors. Mrs. Roberts, who went to Doctors Hospital almost nine years ago to help organize a well-equipped medical library, is a member of the Medical Library Association and assisted with registration for the 1954 Annual Meeting.

PERSONAL NOTES

Miss Mary W. Covington has changed from librarian of the Neurological Institute to reference assistant in the Medical Library, Columbia University.

Mrs. Edith Dernehl, Librarian of the Marquette University School of Medicine and Dentistry, was guest of honor of the Medical students at their spring Ball held on May 7. This recognition was in celebration of the transfer of the Library to its new building.

Mr. H. D. Erlam has been appointed Librarian of the Medical School at Dunedin, New Zealand.

Miss Suzanne C. Fallot has resigned as Librarian of the Los Angeles County Medical Association Library and *Mrs. Gertrude M. Clark* of the Library staff has been appointed to succeed her.

Mrs. Herta Fischer (Denver '53) is Librarian of the College of Medicine, University of Nebraska, Omaha.

Mrs. Juanita Wiles is librarian of the newly established Medical and Nursing School Libraries, Bronson Hospital, Kalamazoo, Michigan.

Miss Patricia Wojick, formerly librarian of Creighton University Medical School is now Reference Librarian of the Kresge-Hooker Science Library, Wayne University, Detroit, Michigan.

Book Reviews and Journal Notes

U. S. Armed Forces Medical Library. *Armed Forces Medical Library Catalog. 1952.* Washington, D. C., Govt. Print. Off., 1953. 813 p. $17.50.

No serial reference publication reveals its full usefulness in the everyday work of the library until the major questions of format and scope have settled themselves and, on the other hand, until the user has acquired the necessary habit patterns. With each volume of the *Armed Forces Medical Library Catalog,* its value increases, not only as a source of information on current books, monographs, and serials, but as a retrospective reference tool. Although the only re-cataloged titles included are those not entered in the Library of Congress catalogs, a sampling of pages indicates that less than half the titles were published within the previous five years, reflecting the extent to which the acquisition program as well as the re-cataloging schedule of the Library has enriched the reference content.

The general organization of the catalog, as reviewed by Miss Manson last year (BULLETIN 41: 90–91, Jan. 1953), remains the same. The innovations include enlarging the scope to encompass all titles of medical interest regardless of classification—a boon to medical libraries lacking general bibliographic tools. A single page, selected at random, yielded three titles that would previously have been omitted: a textbook of veterinary obstetrics, a bibliography on odors, and a book on freeze-drying.

As before, "pre-1801 titles and Americana titles through 1820, cataloged at the AFML's History of Medicine Division, Cleveland, Ohio, are not included," but a note in a recent *News* of the Library indicates that this historical material may eventually be incorporated. In a reasonable compromise between completeness and practicality, the subject section omits entries for material published before 1925 (with the exception of serials, bibliographies, biographies, and similar reference works) for which subject headings are not assigned in the Library.

During the brief lifetime of this *Catalog,* what was originally accepted as primarily a current cataloging aid has come, as intended, to fill one part of the area vacated by the *Index-Catalogue of the Library of the Surgeon General's Office.* However lamented was the end of the *Index-Catalogue,* it was never the tool for current reference work that this *Catalog* and the *Current List of Medical Literature* have come to be, in spite of the awkwardness of consulting a number of volumes for the information formerly contained (in time) under one cover. In keeping with the current fashion for geriatrics, one might say that the librarian has no better friend than the mature, experienced reference series, so mellowed

with age and familiarity that even the bibliographically naive will turn to it. We can only hope that these two tools will be permitted to emulate their predecessor in age and authority.

HELEN CRAWFORD

U. S. Veterans Administration Library Service. *Basic List of Medical Books and Journals for VA Hospitals, Centers and Domiciliaries.* Revised. Washington, D. C., 1952. 22, 8 p.

As stated in the introduction "*The Basic List of Medical Books and Journals for VA Hospitals, Centers and Domiciliaries,* established in 1947, has been revised by the Medical and General Reference Library, Central Office, in collaboration with the Central Office Medical Library Advisory Committee. . . . It will be the responsibility of each Chief Librarian to build from this initial collection a medical library that will adequately meet the over-all needs of the medical staff at each individual station."

Book titles, of which there are 190, are suggested under forty subject headings, and fifty-nine journals are listed under thirty-one headings. A limited opportunity is given for the exercise of personal preference among the books, while the journals have been arranged to allow for separate consecutive listing of "required" and "suggested" titles. The titles are well chosen and, generally speaking, provide for a well rounded collection. However, but one text each is listed under "Allergy" and "Ophthalmology," and but two under "Otorhinology." This would seem to furnish less than adequate coverage in these important fields. The dietetic division likewise appears weak. Recommendations for the nursing section are extensive and substantial. But one text on the "History of Medicine" is listed. This points up the need for the reprinting of Garrison's *History of Medicine,* without which any library is poor. Its absence can be compensated only by the presence of several volumes on the history of the various specialties. We find no title concerned specifically with tumors. Hospitals specializing in the treatment of tuberculosis or tumors would require additional reference works in these fields. The list is well arranged and the material is clearly presented; the second listing of the books alphabetically by the author facilitates rapid checking. The collection, with the few exceptions mentioned, should meet the great majority of the needs of the staff of a VA hospital with respect to accepted current practice in the treatment of the conditions found among the patients in that hospital. The list should be of value to any medical librarian desirous of evaluating her own collection as a whole or with respect to any special field.

L. MARGUERIETE PRIME

TAUBE, MORTIMER and Associates. *Studies in Coordinate Indexing.* [Washington] Documentation, Inc., 1953. 110 p. $3.00.

In a recent paper, Jesse Shera[1] says that any system of bibliographic organization "must be designed to make readily available the extensive and increasingly intricate accumulations of technological and operational literature as well as the literature of scholarship." He feels that "failure on the part of the librarian to recognize the importance of [the] radical change in his role in the modern industrialized and highly specialized society has resulted in a cultural lag on the part of libarianship that could, if it is permitted to continue, result in institutional obsolescence. Fortunately, there is some evidence that a process of adaptation has already begun that will bring the library into closer conformity to the contemporary cultural pattern. . . ." Shera goes on to deplore the "devastating schism" which has arisen between documentalists and librarians, and hopes that it may be eliminated.

I line up behind Shera in this position; the area of "documentation" is the area of librarianship. That there has arisen this new name to describe some very old things is basically an indication of the despair of some of our colleagues in the face of the often deadly ultra-conservatism of the rest of us. In the work here under review, the words "documentation" and "indexing" appear frequently; I equate them with "librarianship" and "subject cataloging." I do not believe there is any significant difference between indexing a periodical article or technical report and subject-cataloging a book; to hold otherwise is to have undue reverence for a mere artifact of format. That apparent differences are readily disposed of was, I believe, demonstrated in my paper of two years ago.[2]

If Mortimer Taube and other hardy souls persist in their efforts to define documentation as something separate from librarianship, I cannot agree; but I can sympathize with their position, which can be interpreted as a reaction of outrage in the face of the reluctance of traditional librarianship to acknowledge qualitative and quantitative changes in the stuff with which we deal, as well as reluctance or inability to reassess continually the techniques we use for coping with it. If we bemoan the magnitude of the tasks which face us, we should be willing to re-examine critically some of the ancient principles and traditions of our craft, and having made the re-examination, to have the courage to change, if that is what the logic of the situation calls for.

Studies in Coordinate Indexing provides such a re-examination of the area of subject cataloging. It is a loose collection of individual papers rather than a

[1] Shera, Jesse. Emergence of a new institutional structure for the dissemination of specialized information. American Documentation 4: 163–73, October 1953.

[2] Rogers, Frank B. Applications and limitations of subject headings; the pure and applied sciences. (In: The subject analysis of library materials, ed. by Maurice Tauber. New York, 1953, p. 73–82)

well-knit treatise which attempts to develop a position by carefully-ordered argument. Of the ten chapters in this volume, four have been previously printed elsewhere, and six have had a limited availability in the form of technical reports prepared for the Armed Services Technical Information Agency.

I would attempt to define coordinate indexing as a system of subject cataloging which capitalizes on the concept of the logical conjunction of ideas (the phrase comes from symbolic logic). In the past we have been very much concerned with the specificity of subject-headings, and with problems of subdivision, into which we have carried over many of the hierarchical concepts of linear classification. Taube is simply stressing the fact that complex ideas are often best expressed, or even solely expressed, by the intersection of two or more widely separated ideas, and by the intersection, or conjunction, of their separate word symbols when an attempt is made to catalog those ideas. He is further stressing the practical difficulties which arise when attempts are made to accommodate all the possible permutations of multiple-term catalog descriptions.

This analysis of the central problem of subject cataloging is simple, straightforward, and readily understandable. There are those who will claim that there is nothing new here; after all, we have always been very much aware of the problems of topical sub-division and cross reference apparatus. I could not go along with such criticism; Taube's analysis has, at the very least, provided a clarification of some important areas previously only dimly and imperfectly comprehended. Once pointed out, the idea is simple; this does not detract from its power.

Taube uses the term "coordinate indexing" generically to describe all systems in which the facility for bringing terms into logical conjunction is given high priority. He would describe all machine systems as variants of coordinate indexing, although here I do not follow his reasoning. He and his associates describe in some detail a particular system of coordinate indexing which they have devised and are advocating; this system is called the "Uniterm" System, and is claimed to have equal suitability for manual and machine applications. The manual system only is described in this book; there is some promise of later machine developments.

In the ordinary subject catalog, we find alphabetically arranged subject-heading guide cards behind which are arranged unit cards, one for each document or book in the collection which pertains to that particular subject. In the Uniterm System, on the contrary, we have one Uniterm card for each subject-heading (this will be qualified later), and on this card are listed the serial numbers of all documents or library pieces which pertain to this subject. This means that, ordinarily, a serially numbered accession record is required. On the Uniterm card the serial numbers are arranged in ten columns, by final digit, to assist in ease of consultation.

The working of the system is best shown by example. Suppose we receive a document on the measurement of the properties of microwaves. We look in our accession record, and assign this document the next available number, which happens to be 489. On the Uniterm card headed "Microwaves" we then enter 489 in the 9 column; we enter the number similarly on the Uniterm card for "Measurement" and on the card for "Properties." Now when a user comes along later to retrieve data on this subject, he will pull the three cards, compare them to see which numbers are common to all three, and will readily find that document 489 answers his requirements. The serious problem of the order of terms, met with in the traditional catalog, does not arise; furthermore, large and important savings in space are made possible.

But dozens of questions immediately come to mind. Of these, I will discuss only two, to indicate some of the difficulties.

The first is mechanical. There are some tough problems involved in the posting of the numbers—placing them on the Uniterm card. There is the problem of insuring legibility and neatness, not so easily overcome without rather cumbersome machinery. There is the problem of getting the numbers on in order, to preserve ease of comparing columns of figures to establish "hits." There is the problem of cards undergoing posting being unavailable for consultation during that period. There is the problem of users removing the cards from the file for comparison, or at the very least, the concentration of cards in an area so small as to be readily accessible to only one user at a time.

The second is the concept of the term used as the Uniterm itself. In the early papers in this book, and in the earlier period of Dr. Taube's work, there seems to have been the idea of establishing various categories of terms, and choosing one or more terms from each category in the process of "subject-heading" a document under the Uniterm system. This idea is very reminiscent of the Ranganathan classification where, in a sense, *all* tables are floating, and are therefore comparable to "categories." It appears that this plan was relatively satisfactory as long as the subject scope of the documents being organized remained narrow. As soon as the scope broadened, however, the idea of categorization broke down. I am afraid that what remains is just the idea of using words as words. To me, the idea of using such words as "high," "low," "measurement," "rate," "methyl," "properties," and the like is appalling. Taube and his associates have wrestled valiantly with this problem, but in my opinion they have not brought it to the mat. They have devised some ingenious and hopeful rules for what they call "free" and "not free" terms, for example, but they are not enough.

Some of the results of such a situation are curious. Oddly enough, the question of homonyms does not seem to be a problem. For example, the word "pulse" is used in one sense in physics, in another sense in physiology, and both senses of

the word might appear in the same retrieval system. No difficulty is likely to result, however, because the ordinary search is going to be a multiple-term search, and the other terms will be controlling. (This reveals, incidentally, another characteristic—the necessity to search under multiple terms in order to obtain maximum efficiency from the system.) But the problem of synonomy is vicious. Suppose, for example we want to make part of our search under the terms "pulse" and "rate," the concept being "pulse rate." How many items that we want would have been entered under "heart" and not under "pulse?"

I am prepared to believe that the mechanical problems can be overcome. Much progress in this direction has already been made. But I cannot believe that the system can ever demonstrate its full potentialities so long as what is being coordinated are just words. In short, ultimately, and soon rather than late, the problem of standard descriptors is going to have to be faced. The larger the system, the sooner the dilemma will become apparent.

It is only fair to state that the Uniterm System is already in operation in many places, notably in certain technical libraries in the aircraft industry, and that the users are enthusiastic. It should also be remembered that the system has potentialities outside the library, as in supply cataloging, inventory control, and medical records; indeed, it may be that some great successes will come in these fields. My interest in the system is sufficient to make me want to give it a trial in some limited area—for example, the cataloging of medical motion pictures, where such diverse data as producer, performer (operator), performance (operation), place (hospital), time, and similar factors might lend themselves handily to such a technique.

There is much more in this slim book which is worthy of comment. The chapter by C. D. Gull on "Substitutes for the Card Catalog," and the second and tenth chapters by Dr. Taube, are of interest without specific reference to the Uniterm System, but simply as provocative essays.

I cannot resist the temptation to quote from *Pickwick Papers* (1836):[3]

> "An abstruse subject, I should conceive," said Mr. Pickwick.
>
> "Very, sir," responded Pott, looking intensely sage. "He crammed for it, to use a technical but expressive term; he read up for the subject, at my desire, in the Encyclopedia Britannica."
>
> "Indeed!" said Mr. Pickwick; "I was not aware that that valuable work contained any information respecting Chinese metaphysics."
>
> "He read, sir," rejoined Pott, laying his hand on Mr. Pickwick's knee, and looking around with a smile of intellectual superiority, "he read for metaphysics under the letter M, and for China under the letter C, and combined his information, sir."

I doubt very much, however, that Dickens should be given credit for the genesis of the idea of coordinate indexing. We are all sons and followers, but I

[3] Dickens, Charles. The Posthumous Papers of the Pickwick Club. Chapter 51. N. Y., Modern Library [c1943] p. 769.

believe Taube deserves the credit here. And I would like to make it perfectly clear, despite my criticism, that it is credit. Since I have quoted from everyone else, I might close this review with one quotation from Taube's book:

> It has become fashionable to state that we can get nothing more out of machines than we put into them. This is like saying that since mathematics is tautological there is never any more in the conclusion than there is in the premises. It is certainly true that when we add a column of figures with an adding machine we get an answer that we did not know even though the answer was implicit in the column of figures. Similarly, in the system of bibliographic coordination, by combining various terms, we may get information which, although implicit in the system, was never explicitly recognized.

There are many other such yeasty remarks. We owe Dr. Taube something more than an automatic reaction of approval or disapproval for his ideas, according to the particular rut in which we may happen to be lodged. We have been seeing what havoc this automatic reaction pattern, on the part of both liberals and conservatives, has been playing in the world of politics. We shouldn't let it happen in librarianship.

This book is not provided with an index of any kind.

FRANK B. ROGERS, MC, USA

Science Reference Notes, prepared by the Science Libraries, Columbia University. Volume 1, Number 1, January 1954 (processed)

As welcome as a lighthouse beacon to all who seem adrift on a sea of current publications, this new serial fills a definite need. It consists of an annotated listing, in subject arrangement, of important current reference works received by the Chemistry, Engineering, Geology, Mathematics, Medical, Optometry, Physics, Psychology, and Zoology-Botany Libraries of Columbia University. Sixteen titles are listed in this first issue, ten of which are of direct interest to the medical librarian. The careful annotations present valuable information and are obviously made by those well acquainted with the literature of the fields which are represented.

By a happy coincidence, the reviewer found here the answer to a correspondent's query which was waiting on her desk; from the annotation, it was clear that V.C.O. Hill's *Primates* (Edinburgh, Univ. Press, 1953) would fill the bill.

Examples of other titles which are helpfully described are: Paul Hauduroy's *Dictionnaire des Bactéries Pathogènes* . . . (Paris, Masson, 1953); SLA's *Correlation Index: Document Series and PB Reports* (New York, 1953); M. R. Murray's and Gertrude Kopech's *A Bibliography of the Research in Tissue Culture* (New York, Academic Press, 1953); WHO's *World Directory of Medical Schools* (Geneva, 1953); UNESCO's and WHO's *World Medical Periodicals* (Paris, 1953); and R. S. Daniel's and C. M. Louttit's *Professional Problems in Psychology* (New York, Prentice-Hall, 1953), which title so effectively conceals the fact that it constitutes a valuable guide to the literature of psychology.

The editors make no commitment as to the frequency of *Science Reference*

Notes; the second issue was planned for April 1954. Correspondence regarding it should be sent in care of the Geology Library, 601 Schermerhorn Hall, Columbia University, New York 27, New York.

MARY E. GRINNELL

Vital Notes on Medical Periodicals. Vol. 1, No. 1, October 1952– . Periodicals and Serial Publications Committee, Medical Library Association. Address varies with the Chairmanship of Committee. Published three times a year, October, February, and June. $2.00 per year.

The first five numbers of *Vital Notes* have appeared. According to the issue of October 1953 "the major aim of *Vital Notes* is to provide, as promptly as possible, a continuing list of all new journal titles in the medical sciences that have begun publication since 1950. . . ." The Editorial Committee will endeavor to provide full details of the journal, such as, date of Vol. 1, No. 1, address of publisher, frequency of publication and price, but will give titles alone if no other information is available, provided the date and number indicate that periodical began publication after 1950.

Volume 1, Nos. 1–3, issued in October 1952, February, and June 1953, give titles, addresses, frequency, and price. With Volume 2, No. 1, October 1953, the symbol of the library first reporting the title was given after each entry. This should prove a useful addition to *Vital Notes* as it indicates in what library the periodical may be located. The noting of changes in titles, information regarding date a periodical ceased, and date it resumed publication, with volume number, is a valuable service. Also given in the October 1953 issue is a listing of Symposia and Congresses.

Vital Notes, Vol. 2, No. 2, February 1954, is the largest issue yet compiled, consisting of 58 pages. This was made possible by contributions from sixteen libraries. It is hoped to make October 1954 a cumulative issue of all titles thus far reported in previous numbers.

The Committee is to be congratulated for gathering this information and for making it available to other libraries and librarians. As Editor of Ulrich's *Periodicals Directory*, I find this data of particular value.

EILEEN C. GRAVES

ADAMS, SCOTT Moving on wheels. D. C. Libraries, 25: 5–7, April 1954.

This is a description of how the 70,000 volumes shelved in the old National Institutes of Health Library on the second floor of one building were moved into the fifth floor of a new building 300 yards away. By the use of book trucks, on which the books were placed in shelf order, and which were held together by giant rubber bands cut from automobile inner tubes, the need to pack books into heavy wooden crates was eliminated. The books were mass cleaned by blowing compressed air at 35 pounds pressure onto the book trucks at a speed of 300 volumes per minute. The total operation took seven 8-hour working days

of eleven workers, three of whom were from the library staff, and the saving to the Institute from the bid of a commercial firm to do this work was $2759.

ESTELLE BRODMAN

MURRAY, MARGARET R. & KOPECH, GERTRUDE, comp. *A Bibliography of the Research in Tissue Culture, 1884 to 1950; An Index to the Literature of the Living Cell Cultivated in Vitro.* New York, Academic Press, 1953. 2 v. $24.00.

Anyone who has faced the disheartening problem of digging up bibliographical references in the field of tissue culture will be grateful to the compilers for this monumental work. The problem of searching for bibliographical references is perhaps more complicated in the field of tissue culture than in many others, probably because the technique has been used by workers originally trained in so many widely scattered disciplines. As a result, publications dealing with tissue culture have appeared in a great variety of scientific journals, some of which are not even generally indexed. Moreover, the titles, necessarily brief, often fail to do justice to the contents, particularly since an author may slant the wording of the title to emphasize certain features which will interest workers in a special discipline while neglecting others which are perhaps of more general importance. The varied scientific background of experimentalists using this technique also tends to make for confusing differences in terminology. The bibliography is particularly welcome because it largely resolves these difficulties.

The bibliography, the only one of its kind, was begun in 1948 and embodies five years of devoted labor. The enterprise was sponsored from its inception by the Tissue Culture Commission and its successor the Tissue Culture Association. In all, 29,000 articles were read in their entirety for possible inclusion in the bibliography. Of these, 15,000 original articles were found suitable for inclusion in the bibliography and these have been expanded by cross-references to 86,000 separate entries. The importance of these cross-references cannot be overemphasized. By reading the original articles and indexing the subject matter, the compilers have made available a great deal of important information which otherwise would have remained buried, owing to the impossibility of encompassing an entire article in a title.

The compilers state in their introduction that they have attempted to produce an index that would be specific, comprehensive, and suggestive; a survey of their headings indicates that their objective has certainly been achieved. Use is made of both general and specific headings. A single reference, for example, ERYTHROCYTES. CANARY is listed among the erythrocyte entries as well as under the general heading of BLOOD. Under the general headings, the subheadings are logically grouped and subdivided so that there is a proper relationship between a specific subject and the group subject. The see also references are helpful indeed.

The increasing use of tissue culture as a biological tool makes this bibliography indispensable.

I. N. DUBIN, M.D.

HINSIE, LELAND E. AND SHATZKY, JACOB. *Psychiatric Dictionary*. 2d ed. with supplement. New York, Oxford University Press, 1953. xi, 781 p. $15.00.

Since its first appearance in 1940, the Hinsie-Shatzky *Psyschiatric Dictionary* has been a valuable and even an indispensable aid for every worker in the field of psychiatry, the practitioner, the scholar, the research worker, the writer, and the librarian. Yet in the relatively short period which separates our era from its first publication date, a great many new psychiatric and psychological terms have emerged, creating an urgent need for a new edition of the *Dictionary*. Its publication will, therefore, be greatly welcomed by all those interested in the subject-matter.

The editors have added no less than 900 terms to the original 7,500 entries of the *Dictionary*; but, as they themselves indicate, this impressive number represents only a selection of the new concepts used in psychiatric literature during the last thirteen years. Every worker in the field will recognize that such an undertaking requires meticulous and diligent studies of a tremendous scope. In order to cope with this task, Hinsie and Shatzky have employed the help of an executive editor and eight new expert collaborators, including six clinical psychiatrists, one research scientist, and one group therapist.

One would have thought that the combined efforts of so many distinguished experts would have brought about what the user of the *Psychiatric Dictionary* was eagerly waiting for: a truly up-to-date edition of the well-known Hinsie-Shatzky work. This is, unfortunately, not the case, because the publisher, for reasons of economy, has used a completely unscientific device: instead of incorporating the 900 new terms into the body of the original *Dictionary*, correcting errors, smoothing out incongruencies, and amalgamating the new with the old into a homogenous whole, he has left the old *Dictionary* of 1940 entirely unchanged and simply added the new material as a supplement. The shortcomings of this procedure are evident. There is much inevitable duplication easily leading to confusion; this duplication occurs even though only the composite concepts of a term appear in the supplement whenever the general term is found in the unchanged part I. Thus, for instance, there is "oral character" in the old part and both "oral erotism" and "oral primacy" in the supplement. But the term "repression" appears in both places. As dictionaries of this type are used by people desiring quick information, inaccuracies, and painful omissions are bound to occur.

The unchanged reprint not only retains all the errors of the first edition, but makes the addition of new information impossible. If, for example, a psychiatrist has died, as in the case of Paul Schilder, the date of his death, though it

could have been easily added, remains a blank. Wilhelm Stekel, an Austrian psychoanalyst, still appears as a "German sexologist." Otto Rank is correctly called a "Viennese psychoanalyst," but Paul Schilder, who also came from Vienna and was connected with psychoanalysis, appears as an "American neurologist;" both came to the United States and acquired American citizenship. On the whole, the user cannot discern upon what criterion the name of a noted psychiatrist is registered or omitted in this dictionary. While lesser lights are mentioned, the names of Émile Coué, famous founder of the Nancy school of autosuggestion, and of his renowned disciple, Charles Baudouin, who combines Couéism with psychoanalysis, are not in this dictionary. The well-known late Karl Menninger of the Menninger Foundation is missing. There is no mention, in the entire dictionary, of Pavlov and his well-known theory of the conditioned reflex.

Many users will look in vain for a procedure now of common use in psychiatry, namely the Rorschach test. Both the concept and the name of the psychoanalyst Hermann Rorschach are omitted. In fact, the whole complex of psychological tests and projective techniques is not properly handled in this *Psychiatric Dictionary*, though this is the right place for it. The old work lists under "test" nothing but the term "test-person," and the supplement of 1953 mentions only two tests, the mosaic and the psychopenetration test. The famous TAT (thematic apperception test) cannot be found here, nor the Wechsler-Bellevue scale, nor hundreds of important psychological tests that have become every-day tools of modern psychiatry.

As far as projective techniques are concerned, the main part of the dictionary contains only an article on general "projection;" the supplement merely lists the concept "method, projective," mentioning Leo Kanner's definition of projection in the special field of child psychiatry and an article by L. K. Frank on the general subject. The user would expect an enumeration of the various projective techniques with an entry for this with no other entries. In child psychiatry the well-known school of Arnold Gesell is not mentioned. Again in general psychiatry, we do not find Ludwig Binswanger's concept of *Daseinsanalyse* (existential analysis) nor the whole group of psychiatric existentialists who play a very important part in contemporary European psychiatry.

We have given these examples at random and do not claim to give a complete list of omissions, whose scope would, we are afraid to say, be even greater. To conclude, this reviewer, who is well aware of the tremendous extent of knowledge mastered by Dr. Jacob Shatzky and his associates in the field of psychiatric philology, feels all the more shocked by the fact that such an enormous display of industry and hard work has been marred by the whim of a renowned publisher who should know better.

HENRY WALTER BRANN, PH.D.

HIRSCH, LORE. Book service to patients. Wilson Library Bulletin, 27: 634–639, 656, April, 1953.

For years patients' librarians have been looking wistfully at their hospital colleagues, the psychiatrists, hoping one of these experts would guide them in the proper practice and development of bibliotherapy. Judging from this perceptive and enthusiastic article, the librarians at the Kingsbridge Veterans Administration Hospital in the Bronx, New York, have found an active cohort in one of their staff psychiatrists, Dr. Lore Hirsch. (The article was originally a talk presented to the Hospital Libraries Division of the ALA in July, 1952.) Dr. Hirsch not only agrees with the principle that reading is a means of therapy for the ill, but she applies it to her own patients.

Bibliotherapy is not as yet a science, according to Dr. Hirsch, but is rather "an art of treatment." Most librarians will agree. Dr. Hirsch accords librarians full membership on the therapeutic team of the hospital. Furthermore, throughout her article, she maintains that deciding what is right for the patient to read is not as easy as treatment for which there are scientific formulas. For example, "bibliotherapy depends a great deal on the intuition of the therapist, and on the capacity of the individual patient to fit the right key to the right lock . . . The librarian who is used to clinical work develops a kind of intuitive experience for what certain people need in certain situations, in certain moods, and she is able to utilize her knowledge of literature, as well as an intuitive clinical judgment for the benefit of the patients."

This article emphasizes the value of bibliotherapy to the chronically ill, particularly the mental patient. Noteworthy are Dr. Hirsch's observations on the importance of the patient's reading as a clue to the psychiatrist's understanding of his problems. But most significant is the basic distinction she draws between bibliotherapy for the physically ill via the librarian and bibliotherapy as only one aspect of the psychiatrist's treatment of the mentally ill. Other interesting points she takes up are specific psychological needs reading can fill for both children and adult patients, the value of popular psychology books, and whether or not patients should be allowed to read controversial or medical books.

Dr. Hirsch's encouraging article is substantial and thought-provoking. Written with clarity and objectivity, it should be widely read and discussed by progressive librarians. It is a welcome contribution to the scanty literature on bibliotherapy.

CONNELL, SUZANNE MCLAURIN. Books in 'The land of counterpane'. Wilson Library Bulletin, 27: 640, April, 1953.

In her usual capsule writing style, Mrs. Connell lists a group of tested reading subjects which will appeal to the sick. She recommends poetry "for inspiration and beauty," essays and short stories "for their brevity as well as their subject

matter," mysteries and westerns for escape from self, religious books for serious self-appraisal, and so on.

COLQUHOUN, JEAN. On reading Boswell's column; Thoughts on bibliotherapy. Wilson Library Bull., 27: 633, 656, April, 1953.

The author's thesis that bibliotherapy is new in name only is well taken. It is pleasant and amusing to discover that Boswell enlisted the *writing* of a magazine column as therapy for depression. But it is more interesting to learn that *reading* as therapy was given early recognition by such big names as Horace Walpole, Byron, Hazlitt, Bulwer Lytton, and Montesquieu. Further research and writing on this subject might well be worthwhile; librarians are always searching for quotations applicable to their own field.

CATHARINE HEINZ

U. S. Public Health Service. *Report on Schools of Public Health in the United States* . . . by Leonard S. Rosenfeld and others. [Washington, D. C., 1953] ix, 110 p. (Its Publication No. 276) 35 cents.

This is a factual report prepared from a study made by a group of staff members in the Division of Public Health Methods of the U. S. Public Health Service. The Association of Schools of Public Health was responsible for the initial request for this report. Representatives from the schools of public health, the American Public Health Association and other interested agencies planned the study and acted as an advisory group, with Lowell J. Reed, Ph.D., as Chairman. The report was written by Dr. Leonard S. Rosenfeld, with the assistance of Marjorie Gooch and Oscar H. Levine.

Nine schools of public health in the United States with programs accredited for the year 1949/50 were studied. The concluding paragraph in the Introduction states the scope of the study in the following terms: "This Report describes the educational programs, resources, financing, and needs of schools of public health. No attempt is made to evaluate the effectiveness of professional education in public health in terms of current and future requirements, or to consider questions of quality of such education."

The problems common to all the nine schools are about the same: adequate financing for additional expansion through construction and equipment, increase in the teaching personnel, and enlarging the number of students to be trained. There is still the major problem of recruiting professional personnel into public health, especially physicians.

The numerous statistical tables used throughout the report and in the appendices illustrate clearly the successive steps in the development of the study. Although the figures used are for the school year 1949/50, the conditions studied have not changed appreciably in the three year interim.

There is no Index, but a full Table of Contents, a List of Tables, and References, to the number of twenty-five, make it a document of value to anyone

interested in studying the schools of public health in the United States, both currently and with regard to any long-range program of development.

ANNA C. HOLT

KLEINSCHMIDT, H. E. AND ZIMAND, SAVEL. *Public Health Education: Its Tools and Procedures.* New York, Macmillan, 1953. xvii, 302 p. illus. $4.50.

Out of the wealth of their experience the authors have brought together their conclusions regarding such educational techniques as the spoken word, exhibits, news reporting, radio, motion pictures, bulletins, pamphlets, news letters, annual reports, and campaigns. Those who are concerned with the production and use of health education materials will find many specific helpful hints and rules-of-thumb on how to develop the various tools as well as cautions to observe in their use. Of particular interest and value are the historical accounts concerning the early thinking and unique use of the various methods and techniques. One of the author's original drawings that occur throughout the volume contribute unique zest to the written text.

Although, as the sub-title indicates, the volume is primarily devoted to "Tools and Procedures," there are brief treatments of such subjects as: the definition of health education, who does health education, class instruction in and out of school, citizen participation, and evaluation. However, the reader who wants to know the basic psychological principles of behavior change, as well as the way in which they influence program planning and operation, will not be satisfied with the very brief and superficial presentation contained in this volume. Neither will he find reference to many of the studies in the fields of anthropology, sociology, and group dynamics that have important implications for the ways in which educational tools and materials are used.

Despite this limitation, the volume will prove valuable as a handbook for the practicing health educator in his day-to-day task of producing and utilizing health education materials.

MAYHEW DERRYBERRY, PH.D.

TRENAMAN, JOSEPH. *Out of step, a study of young delinquent soldiers in wartime . . .* New York, Philosophical Library [1952] xx, 223 p. illus. $4.75.

The big headache in time of war is the management of the persistent army offender. Punishment alone is ineffective; medical diagnosis is too often converted to the offender's gain; outright discharge is wasteful. Mr. Joseph Trenaman, basing his work on careful study of 203 soldiers in one of the Special Training Units (S.T.U.'s) set up by the British Army in 1941, tackles this thorny problem in one of the most provocative and illuminating psychological studies to come out of the war.

First organized on an experimental basis to handle the pressing problem of the army delinquent—the S.T.U.'s soon proved their worth. Between 75%

and 80% of the offenders were posted to Field Force Units or assigned to work in the Pioneer Corps. Some of these men were commended for bravery in action. The average stay in the S.T.U. varied from four to six months: reports on the conduct of 1039 soldiers made three months after their posting indicated that 76% had an average or above average disciplinary record. In view of the serious manpower shortage which harassed wartime England these results are impressive indeed. They more than justify the effort put into the experiment.

Mr. Trenaman states that "the training program of the S.T.U. appeared to differ little from that of the normal army unit." Yet the whole atmosphere of the S.T.U. was infinitely more permissive and understanding. Great emphasis was placed on group activity and attention to individual needs. The young soldier was neither locked up nor treated as a patient. The all-pervading idea was that he could be reclaimed by systematic training in the broadest sense of that term. Attempts were made to reach the men at three levels—"the moral, the mental, and the physical." Welfare sergeants experienced in social work were the points of contact on the "moral" plane, and apparently did a magnificent job. There was no provision for formal psychotherapy. Although the author decries the lack of a resident psychologist and psychiatrist, these services were rendered from time to time by visiting specialists. The mental level was reached by the educational program which had to be elastic to remain effective. The third level was approached by a first class physical training program sufficiently modified to suit the needs of the men.

Important as the discussion of results and treatment methods may be, the major portion of the book is given over to a minute inquiry into the nature of the offender—his background, the type of offense—and an analysis of causes. Mr. Trenaman confirms the conclusions of most enlightened workers in the field by stating that delinquency is experientially determined. He concludes there is no such thing as a genetic or inborn criminal disposition. This conclusion carries with it the strong implication of treatability, or more precisely, trainability. This may be said to be the *leit motif* of the entire work.

Mr. Trenaman isolated 24 factors which he considered to be "strongly associated with delinquency." These ranged from broken homes to illiteracy, from parental neglect to bed wetting. Physically and intellectually the men were slightly below par. Emotionally they were more restless, unstable, and adventurous than the control groups. Economically the majority came from large families living in poor and overcrowded homes. The most important influences were, however, those which came from the social and emotional atmosphere of their parents' homes. Almost half of the cases revealed parental neglect. In almost every case there was an abnormal relationship between the soldier and his parents. Although the "broken home" occurred in one-fourth of the cases, it *per se* was not considered a major determining factor. The author emphasized that delinquency was seldom, if ever, the result of any *one* of these conditions, but rather the result of the general weakening effect of several.

The encouraging results reported in this army group should be received with controlled optimism by the reader. Delinquency in the closely knit, rigidly regulated army life is one thing; delinquency as observed in the loosely organized and laissez-faire atmosphere of civilian life is quite another matter. Being late for muster is a far cry from persistent car-stealing; yet both may be classified as delinquency. For this reason alone the military offender should have a better prognosis than his civilian counterpart. The heightened national *ésprit* in war time, which may partially account for the drop in delinquency in the general population, may also help explain the excellent results obtained in this experiment. Nonetheless, the possibility of using a modified military set-up somewhat similar to the CCC Camps of the early 30's and incorporating many features of the S.T.U. should receive the serious consideration of all who have to do with the problem.

Mr. Trenaman has given us valuable data to aid us in the unending task of combatting delinquency. Unlike many previous investigators who have based their conclusions on occasional brief interviews in artificial settings, the author has had the great advantage of living intimately with his subjects. Using the individual case study method, he has observed his subjects in their natural habitat without provoking the defenses which vitiate many psychological studies. He has outlined a simple, effective plan of treatment based on a combination of common sense and rare psychological understanding. The book is written in the clear lucid style which has become the hallmark of British authorship. It can be highly recommended to all responsible citizens who take their citizenship seriously—to all psychologists, psychiatrists, and social scientists who would like to profit by this war time experiment and apply its findings to the solution of delinquency, one of the more challenging social problems of our time.

ZIGMOND M. LEBENSOHN, M.D.

MURPHY, GARDNER. *In the minds of men.* [1st ed.] New York, Basic Books [1953] xiv, 306 p. illus. $4.50.

The title of this book stems from the UNESCO statement that "war begins in the minds of men," that all the forces from which war springs are ultimately passed through the filter of human thought, feeling, and impulse before they lead to the decisions from which war follows. Gardner Murphy, the eminent American psychologist and UNESCO technical consultant on social research methods, presents here an account of how six interdisciplinary research teams of social scientists, at the request of the Indian Government and acting on a mandate from UNESCO, set out on a fact-finding study of intergroup tensions in India. The year was 1950. How they worked and what they found provides a worthwhile reading experience.

Other UNESCO projects concerned with social tensions and their solution were also under way. French historians were engaged in a study of the French

nation from the point of view of the interdependence of France and its neighbors, and the gains which France has received from them. In Norway, a "stereotypes study" was concerned with the ideas which children of school age develop regarding the people of other countries. In England, educators were devoting this attention to studies of prejudice in the school system. In Sweden, Australia, India, and France, research projects were undertaken on the effects of industrialization in producing social tension. Distinguishing all these projects from the ongoing activities of research workers in each country is the pioneering endeavor to formulate common plans of investigation, operating in very different cultural contexts, under United Nations auspices, and with personnel international in outlook.

In the Minds of Men consists of four parts. Part I is devoted to a description of the goals and planning of the mission and the formation and training of the research teams. Murphy presents this introduction in a clear, warmly human, and non-technical manner. He thus provides the reader with some interesting and valuable information contributing to an understanding of the nature of the research task and of the administrative and interpersonal setting in which it was to be pursued.

Part II continues to illuminate the contextual framework of the research investigations and consists of three chapters on the sources of solidarity and cleavage in Indian life and history. The family system, the caste system, and language and geographic factors are discussed as roots of unity and division in Indian life. The rise of tensions is seen to be associated with the divided village, challenges to the caste system, language barriers, and the partition of India. The chapter on child development, written by Lois Barclay Murphy, the author's wife and herself a noted psychologist, was based on impressions collected from visits to over thirty schools, orphanages, and other children's institutions, and to as many homes representing all socio-economic levels. In line with the generally semi-popular flavor of this book (the technical reports of the research teams have been submitted to the Indian Government and may be published later), she presents her observations and conclusions in a refreshingly readable style and, since her account is frankly impressionistic, does not rely on the more formal methods of data presentation as supporting evidence.

In Part III, "Social Tensions in Today's India," the substance of research results is presented. Part IV is concerned with "prospects of social health," prognostic indications, and implications for remedial action. It is Part III that the student of individual and social behavior is apt to find most rewarding, for here is the account of how research tools have been utilized in a far more comprehensive arena than is usual in our experience. Examples of methodological approaches from the fields of psychology, sociology, economics, and psychiatry are put to use in discovering the roots of national and international conflict. Along with the relating of incidents, conversations, and observations, data

obtained from attitude scales, sentence completion tests, and structured interviews are discussed and subjected to statistical treatment and tabular presentation. Some of the problems of representative sampling, of the interviewer-interviewee relationship, and of other important issues in contemporary social research are also discussed briefly. Yet Murphy clearly gears his report of these aspects of the research experience to the demands of his problem and its setting. The concepts and the methods were always at the service of shedding light on significant social issues, and the social problems that were being studied determined the selection of research devices. That is why this book should prove of value to a wide audience: the student of India, the social scientist, the statesman, the journalist, and the general reader. It is a well-written, provocative account of social science and social engineering integrated, a valuable diagnostic report of a nation in distress.

LESTER M. LIBO, PH.D.

FISHBEIN, MORRIS, ed. *Medical Progress: A Review of Medical Advances During 1952.* New York, Blakiston [1953] xii, 300 p. $5.00.

This book, as indicated by the title, is made up of summaries of medical progress over the past year. Twenty-five physician specialists in the various fields of medicine have contributed to the volume, the subjects varying from Heart Disease to Psychiatry, as well as a review of recent work on Drugs and in the field of Nutrition.

The book differs from other reviews, like the *Year Book of Medicine*, in that there is no review of literature but rather a narrative statement of work which is being done and the accomplishments made in the various medical fields. The reports make easy reading for one wanting factual information and not statistical data or reference material; however, adequate references are given with each article. It is an excellent review for those who would like to sit down and catch up with medical progress for the year, since all the authors are authorities in their fields. The article on Allergy would be especially helpful in a controversial field. New and Important Drugs and new work on Arterial Hypertension are interesting reviews.

The book is recommended for any physician or layman wanting an over-all picture of "scientific medicine on the march."

NICHOLAS GOTTEN, M.D.

UNDERWOOD, E. ASHWORTH, ed. *Science, Medicine and History; Essays on the Evolution of Scientific Thought and Medical Practice written in Honour of Charles Singer.* London, Oxford University Press, 1953. 2 v. illus. $45.00.

Those who are interested in symbolism may perhaps attempt to see some significance in the fact that the letter S is not only the first letter in the word Science—it is also the initial letter in the names of some of the most eminent

living historians of the subject, Sarton, Sigerist, Shryock, Stimson, and last but not least, Charles Singer. However, one need not be a mystic or devotee of the occult to equate the name of Singer with the History of Science and Medicine, for, he through a lifetime of enthusiastic teaching, research, and writing has made his name known to every student of the subject.

Now 78, Charles Singer has lectured on the History of Science and of Medicine at the University of London, at Oxford, and at the University of California in Berkeley. Yet despite his age he is still active, being now engaged in the production of a five volume work on the history of technology. His bibliography which appears at the end of volume two of this work includes 412 items, a truly astounding list.

It is little wonder thus that ninety of the most eminent historians of science from various parts of the world have contributed a remarkable series of essays to honor Professor Singer. In a sense this Festschrift honors also his equally distinguished wife and helpmate, Dorothy Waley Singer, eminent as historian of science, bibliographer, and philologist.

It is obviously impossible in the space alloted to describe, let alone critically evaluate, this intellectual smorgasbord so magnificently prepared by the authors, editor, and publisher. Nevertheless, the following notes may serve to give some indication of the contents.

The essays are arranged in eight books in broad chronological subdivisions. Book one on the Ancient World contains eleven papers; Book two—The Medieval World—nine papers; Book three—The Renaissance—thirteen essays; Book four—The New Philosophy—seven papers; Book five—The Insurgent Century—eight papers; Book six—The Eighteenth Century—seven papers; Book seven—The Nineteenth Century and After—17 papers; and lastly, Book eight—Conspectus Generales—eighteen papers.

A few random titles will help further to suggest the variety and richness of content of this monumental work. Actually, many of the essays, beautifully illustrated and adequately documented with bibliographical footnotes, constitute introductory monographs to the subjects with which they deal. Thus V. Gordon Childe opens Book one with an essay on the Constitution of Archeology as a Science; A. D. Lacaille discusses the Evolution of the Knife in the Old Stone Age; and J. R. Partington reviews Chemistry in the Ancient World. In Book two, C. Rabin writes on Ibn Jami on the Skeleton; H. P. Bayon, On the Masters of Salerno and the Origins of Professional Medicine; and Henry Sigerist presents a discourse on Johannes Hartlieb's Gynecological Collection and the Johns Hopkins Manuscript 3(38066). In Book three Arturo Castiglioni has an essay on The School of Ferrara and the Controversy on Pliny; Agnes Arber takes us From Medieval Herbalism to the Birth of Modern Botany; and F. J. Cole gives a most fascinating account of The History of Albrecht

Dürer's Rhinoceros in Zoological Literature. In Book four, Douglas McKie writes on Fire, and Flamma Vitalis; Boyle, Hooke, and Mayow.

The second volume composed of four books includes essays by George Sarton on J. A. Vander Linden, Medical Writer and Bibliographer; Lilian Lindsay on Dental Anatomy from Aristotle to Leeuwenhoek; C. D. Darlington on Purposes and Particles in the Study of Heredity; Claudius Mayer on The *Index-Catalogue* as a Tool of Research in Medicine and History.

In addition to the ninety articles the book contains a lively introduction by Sir Arthur Salusbury MacNalty; a biographical sketch of Charles Singer and (as already mentioned) a bibliography of his writings. There is an index of persons and of subjects of 64 pages. Finally it should be mentioned that this well-printed and excellently bound work is lavishly illustrated with more than 100 plates as well as text figures. It is a magnificent tribute to a great scholar. Nevertheless it must be deplored that the very high price ($45.00) will keep this useful, interesting, and entertaining work from the shelves of all but a small minority of students. It is, however, a book which every medical library should acquire for its reference collection.

MORRIS C. LEIKIND

THATCHER, VIRGINIA S. *History of Anesthesia, With Emphasis on the Nurse Specialist.* Philadelphia, Lippincott [c1953] xvii, 289 p. illus. $5.00.

At the middle of the present century, in "a good half" of the cases in which anesthesia was administered in the United States, the anesthetists were nurses qualified by training and membership in the American Association of Nurse Anesthetists. Since the contribution of the nurse anesthetist had not been adequately treated historically, Miss Thatcher, who since 1946 has been managing editor and public relations director of the American Association of Nurse Anesthetists, has set about to remedy this defect.

Miss Thatcher first of all briefly reviews the American scene at the time of the modern discovery of anesthesia, emphasizing the effect of the industrial revolution and the western movement on the American populace. It was a time when Jacksonian democracy, the belief in the inherent rights of the people, brought about a freedom that was at least uninhibited and often resulted in fabulous and vulgar displays. Typical of the displays were the "ether frolics" and nitrous oxide "benders" brought about by the itinerant "professors" of chemistry for the general amusement of the populace.

In a well-documented account, Miss Thatcher reviews some of the previous discoveries on which the development of surgical anesthesia depended. She points out that anesthesia was not an unmixed blessing because of ignorance, because of incompetent administrators of anesthetic preparations, and because septic conditions, exerting a high mortality, still prevailed in the operating room.

The author intertwines her story with the thread of the development of nursing services and how, gradually, the need for competent anesthetists brought the nurse specialist into the fold.

In Great Britain, administration of anesthetic preparations was generally entrusted to a physician who, by his manifold experience, developed anesthesia as an integral part of the practice of medicine. In the United States, however, some surgeons accepted the nurse for this role, with the understanding that she was under their supervision. Apparently the first nurse to administer anesthetics in an official capacity was Sister Mary Bernard of St. Vincent's Hospital in Erie, Pennsylvania, who was asked to give anesthetics in 1877. Sister Aldonza Eltrich of St. John's Hospital, Springfield, Illinois, was taught the administration of chloroform and ether by the surgeons of the hospital in 1880. Gradually more nurses, including some in Rochester, Minnesota, were given the responsibility of administering anesthetics, at first under the supervision of surgeons and at a later date, under the supervision of anesthesiologists.

Miss Thatcher points out that prior to World War I, postgraduate courses in anesthesia were established (presumably for nurses) in four hospitals: St. Vincent's Hospital in Portland, Oregon (1909); St. John's Hospital in Springfield, Illinois (1912); New York Post-Graduate Hospital (1912); and Long Island College Hospital in Brooklyn, New York (1914).

The development of postgraduate training in anesthesia for nurses during and after World War I culminated in an attempt to legislate the nurse anesthetist out of existence. In spite of the opposition of some physician specialists in anesthesia and others, however, the only court trial to test the legality of administration of anesthetics by nurses occurred in 1934. Miss Dagmar A. Nelson, nurse anesthetist at St. Vincent's Hospital, Los Angeles, California, was the defendant. The trial lasted twelve days and Miss Nelson was judged not to be practicing medicine or surgery under the California Medical Practice Act, this being the bone of contention between some California physicians who practiced anesthesia and the nurse anesthetists who administered anesthetics under a physician's guidance. The case was appealed and the judgment of the lower court was sustained by the Supreme Court of California on May 18, 1936.

Miss Thatcher devotes the last part of her book to what amounts to the history of the American Association of Nurse Anesthetists. The story is brought down to January 19, 1952, at which time a program for accreditation of schools of anesthesia for nurses went into effect.

THOMAS E. KEYS

LIPPA, ERNEST M. *Captive Surgeon, Adventures and Misadventures of a Doctor in Red China*. N. Y., Morrow, 1953. 280 p. $4.00.

Captive Surgeon, Adventures and Misadventures of a Doctor in Red China—the title is indicative of the style of the author, Dr. Ernest M. Lippa. Based in

part on articles which appeared in the *Saturday Evening Post*, it is written to appeal to the general public, with an interesting account of Dr. Lippa's work before and after he came under control of the Communists, with the story of his pursuit into Communist territory of the nurse whom he later married, and with only a very small portion of technical medical detail. In fact, the two paragraphs devoted to details of the removal of an ovarian cyst take by surprise the reader lulled by the predominantly popular style.

Dr. Lippa went to China in 1938 in preference to remaining in his native Vienna after Hitler came into power. *Captive Surgeon* begins with the doctor's appointment as head surgeon at the Catholic hospital in Kaifeng. There he remained until the Communists attacked in 1948 and put to flight the Nationalists, all too often more eager to run than to fight even when they were superior in numbers. Dr. Lippa's next appointment took him north to the Sinsiang Mission Hospital still in Nationalist territory and under Catholic control. It was not until he followed his bride-to-be to Luan that he himself began working under the Communists.

Before 1946, according to Lippa, the Communists in China had been in the minority. Most of their hospitals treated Communists and the ordinary Chinese citizens in the same way. Later, after the Communists came into control, the situation was somewhat altered. To use scarce medical supplies on the ordinary citizen was a waste. Conditions were deplorable partly because of the real lack of medical supplies, but mostly because of inferior doctors, about 90 per cent with medical education which consisted of political indoctrination. Frustrated in every attempt to carry out his work in an acceptable manner, the Lippas finally sought and obtained permission to leave. Some day the doctor hopes to return to China, but not while it is under Communist control.

EMILIE V. WIGGINS

CHAPIN, WILLIAM A. R., AND ALLEN, LYMAN, ed. *History, University of Vermont College of Medicine*. Hanover, N. H., Dartmouth Printing Co. [c1951] 162 p. illus., ports. $5.00.

The editors of this volume have assembled tidbits of Vermontiana bearing upon the progress of medical education and the medical profession. This material, along with a running account of and significant data regarding the University's efforts in the field of medical education, is laid upon a backcloth of the times, from the turn of the eighteenth century to 1950.

Part I consists of eleven chapters which treat the story chronologically, beginning with "A Bit of Vermont History" and ending with "Arguments for Continuing State Support of the College of Medicine." The latter is not strictly history but this chapter does deal with some historical facts and should certainly be tolerated in this volume in view of the crucial need of this and other medical schools for all the financial support that can be secured.

Chapters XII–XV could have been classified as appendices, since they include reminiscences of oldest graduates, faculty rosters, war service records, and miscellaneous information. Some of the reminiscences are quaint and salty. The rosters, records, and other data certainly constitute a valuable source of information.

As a whole, this study is not a critical history of Vermont's College of Medicine. The editors have, nevertheless, brought together much of the material essential to a more penetrating historical investigation. The work done by Drs. Chapin and Allen should not be underestimated. In many ways this volume compares well with F. C. Waite's historical studies of several (now defunct) New England country medical schools.

Wm. Frederick Norwood, Ph.D.

Obituaries

Marvin Pierce Rucker, M.D.

1887–1953

Dr. Marvin Pierce Rucker was born in Fairfax County, Virginia, in 1887. He received his medical degree from Johns Hopkins University in 1903, and after postgraduate study in Leipzig, Germany, settled in Richmond to practice with his father. In 1915 he limited his practice to obstetrics and gynecology and received international recognition in these fields.

Dr. Rucker taught in the Medical College of Virginia for twenty-seven years and was also a special lecturer on the history of obstetrics at Duke University. He did extensive research and study relating to his special field and for almost half a century was a regular contributor to medical literature. His published writings, numbering more than four hundred, covered a variety of subjects that dealt for the most part with matters relating to obstetrics, medical history, and public health. His deep interest in the history of medicine lead to the publications of two series of brief publications entitled *Floral Eponyms* and *Bibliotheca Obstetrica*. *Floral Eponyms*, published in the *Virginia Medical Monthly*, discusses the origin and designation of various flowers and shrubs that were named for various scientists. *Bibliotheca Obstetrica* is a series of sixty-eight contributions from various writers relating to obstetrics.

Dr. Rucker was a member of the Medical Library Association for years, and he and Mrs. Rucker attended many of the meetings in various parts of the country. He was elected Honorary Vice President in 1948 and he retained his keen interest in the Association as long as he lived.

Margaret McCluer

Wayland Delano Wilcox

Wayland Delano Wilcox of Lea and Febiger, Publishers, died on March 9 of a heart attack at the age of 78. Mr. Wilcox was born in 1875 in Coventry, R. I. He was educated at Alfred University, Alfred, N. Y., Lewis Institute, Chicago, and at the University of Chicago, from which he was granted degrees of B.D., Ph.B., and Ph.D. He entered the employment of Lea & Febiger in September 1915 and has served continuously as Editor and Manager of the College Department since that time. He is survived by his wife, Mrs. Agnes B. Wilcox, and a son, J. Lyon.

During the many years of Mr. Wilcox's association with medical and scientific publishing, he made countless friends among teachers and authors in these

fields and among his colleagues in other firms. He has often been referred to as the "dean of medical publishing," a title which he richly deserved.

Halsey W. Wilson

Halsey W. Wilson, founder of The H. W. Wilson Company of New York, died on Monday morning, March 1, 1954, at his home in Croton Heights, Westchester County, New York, at the age of 85 after an illness of several months.

Internationally renowned as a bibliographer, Halsey William Wilson was the founder and Chairman of the Board of the world's largest reference publishing house, the 56-year-old H. W. Wilson Company of New York, publishers of more than twenty major indexing and reference services acclaimed as indispensable to research and scholarship in libraries the world over. Best known, perhaps, of the Company's publications, are the *Cumulative Book Index* and the *Readers' Guide to Periodical Literature.*

He had been a regular attendant at library conferences, in recent years having attained the distinction of having attended more conferences of the American Library Association than any other member. He encouraged his staff to participate in library association affairs and to give generously of their time and abilities to committee work. In still another channel of cooperation, representatives of the American Library Association and the Special Libraries Association have been invited frequently to sit unofficially with The Wilson Company's Board of Directors.

In addition to his services to research, H. W. Wilson made several contributions to the field of publishing. One of the most notable is the plan he originated for saving and interfiling type for the "cumulative" indexes associated with his name. Another unusual contribution is the "service basis" method of charge, which not only made possible the publications of hundreds of reference volumes, but made it financially possible for libraries on six continents to own them. By this plan, each subscribing library pays in proportion to the use made of the service. Thus, prices to booksellers are based on their sales, while prices to libraries are based, in the case of book indexes, on the size of their book budgets, and, in the case of periodical indexes, on the number of the indexed periodicals to which they subscribe.

Mr. Wilson was born on May 12, 1868, in Wilmington, Vermont, the son of John Thompson and Althea (Dunnell) Wilson, and a descendent of Roger Williams, Anne Hutchinson, and the Quaker martyr, Mary Dyer. He was educated at Beloit College, then a boarding school in southern Wisconsin where he remained two years, and at the University of Minnesota, where he studied and worked from 1885 to 1892.

The history of what was later to become The H. W. Wilson Company began late in 1889, when, to pay college expenses, he and a fellow student at Minnesota

formed a partnership to deal in student textbooks and supplies. The corporation which now measures its annual sales at over two million dollars had its beginning in a tiny 12′ x 16′ room in the campus "Old Main" building, where Mr. Wilson continued the business alone on his partner's graduation in 1891.

The *Cumulative Book Index*, first issued in Minneapolis in 1898, was an outgrowth of his experience as a bookseller. Like other booksellers, he was bothered by the lack of an up-to-date catalog listing the books of all publishers, and he saw the need for a catalog that would list books by subject as well as by author and title. He determined to supply a monthly catalog of books listing authors, titles, and subjects in a single alphabetical series, and to save users the trouble of looking through many back issues by combining old entries with the newer ones at frequent intervals. By storing and interfiling the slugs of type after their first use, successive monthly issues are combined frequently into a single series of entries to make a "cumulative" issue which supersedes the earlier single numbers.

The first issue of the *Cumulative Book Index* was a modest pamphlet of sixteen pages, as compared with the 1949–1952 cumulated volume listing books in English wherever published and running to 2123 pages. The entire staff in 1898 consisted of Mr. Wilson and his wife, the former Justina Leavitt, a University of Minnesota student whom he married three years earlier. Their first editorial assistant, Marion E. Potter, joined the firm later in the same year. She remained active in it until her death in June 1953 at the age of 83.

Other major Wilson publications and their beginning dates include: *International Index to Periodicals* (1907), *Standard Catalog* series (1908), *Industrial Arts Index* (1913), *Wilson Library Bulletin* (1914), *Agricultural Index* (1916), *Union List of Serials* (1927), *Art Index* (1929), *Education Index* (1929), *Educational Film Guide* (1936), *Current Biography* (1940), and *Biography Index* (1946).

Brown University conferred on Mr. Wilson the honorary degree of Doctor of Letters in 1939, and in 1948 he received from the University of Minnesota its first "Outstanding Achievement" medal. His contributions have been summarized as follows: "By imposing order on the chaos of information, Wilson indexes have been a factor in accelerating the progress of science, which relies heavily on the swift exchange of ideas."

Marion Dondale

President, Medical Library Association, 1953–1954

As we go to press, we have just learned of the sudden death of Miss Marion Dondale, who served as President of the Medical Library Association up to June 19 of this year. Miss Dondale died in Albany on Monday, June 28, after a cardiovascular accident 48 hours earlier. A more extensive obituary of Miss Dondale will appear in a forthcoming issue.

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